FlexLock Installation and Configuration Guide

Includes TempCheck install, FlexLock service and Helmer fridge adjustment

60-3002 Rev H

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Product Overview

FlexLock

FlexLock offers security for refrigerated medications or supplies. It can be attached to a refrigerator storing thermal-sensitive medications or a supply cabinet. FlexLock is then cabled to an Omnicell cabinet. The Color Touch screen can display the status of the FlexLock (open/closed, locked/unlocked). A maximum of two FlexLocks can be attached to one Omnicell cabinet due to power supply considerations. The FlexLock should be located as close to the OmniSupplier as possible for best usage.

Other FlexLock features:

- Up to 119 items can be assigned to each FlexLock
- An internal bin address is associated with each item. External bin numbers are not used
- An item cannot be assigned to the same FlexLock more than once
- An item cannot be assigned to more than one FlexLock
- An item cannot be assigned to a FlexLock and any other hardware locations at the same time

System Requirements

- A refrigerator or cabinet that fits the FlexLock template; extra
- Color Touch Cabinets running Omnicell 7000 software or higher
- Spacing: 12” length, 6” height, 6” depth (2” depth okay if refrigerator/cabinet can be slid out to access the override lock)

TempCheck

The TempCheck temperature sensor is an optional component of the Omnicell FlexLock product. It can be included as part of a new FlexLock installation or retrofit to an existing FlexLock.

TempCheck automates monitoring of the storage temperature for thermal-sensitive medications. This product promotes increased patient safety, workflow efficiency, and regulatory compliance.

Alerts warn the staff (pharmacy, RN, security) when the storage temperature is outside the specified range for a better response time. Reports can be used to meet state and local agency regulations. The Color Touch screen can display real-time storage temperature readings through a diagnostics window.

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System Requirements

- OmniCenter and Color Touch Cabinets running Omnicell 10.0 software or higher.
- Email application enabled at the Omnicenter (SMTP server provided by the hospital IT department)
- FlexLock installed and configured with FlexLock assembly #14-7043 and manufacturing assembly kit #20-6023
- Retrofits for an existing FlexLock with TempCheck kit #20-6037

Note: Refer to the *Omnicell 10.0 Technical Release Guide* for more information on Email setup.

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Hardware Installation

Procedure Overview

This chapter details the installation of a FlexLock device on a refrigerator or cabinet. FlexLock installation includes retrofitting cables.

This guide covers both G3 and G4 product ranges.

Cabling between G3 and G4 is unique, and discrete sections describe each application.

However, installation and general setup is identical across both ranges of cabinets.

The FlexLock can be cabled to:

- E-Box [G4 cabinets]
- Electronic Sled [Omni TT, OmniRX, Anesthesia Workstation G3, Sure-Med, half-cell]
- PC Box cabinets [one-two-three cells]
- External Return Bin [ERB] (in a chain configuration)
- FlexLock (in a chain configuration)

Also included are installation steps for the optional TempCheck temperature probe—used with FlexLock on a refrigerator. If doing a retrofit for an existing FlexLock, refer to "Retrofit TempCheck" on page 2-81.

Tools Required

The following tools are required to perform the FlexLock installation:

- T-10 Torx Driver
- Cam Lock Keys #2202 and #2232 [FlexLock]
- Cam Lock Keys #2202 and #2204 [ERB]
- ESD Wrist Strap
- 1/4" Hex Driver (with various bit sizes)
- T8 Torx Driver
- 5/16 Nut Driver
- Screwdriver (for vertical alignment)
- Needle-nose Pliers (helpful with pealing adhesive cover)
- Standard Phillips screw driver

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Kit/Parts Required

Initial FlexLock installation uses two kits. A third is needed for a TempCheck retrofit. Additional parts must be ordered from Helmer if attaching a FlexLock to one if its refrigerators.

- **FlexLock Assembly #14-7043**: Some FlexLock parts come pre-assembled for shipping purposes. They need to be separated to do the installation.

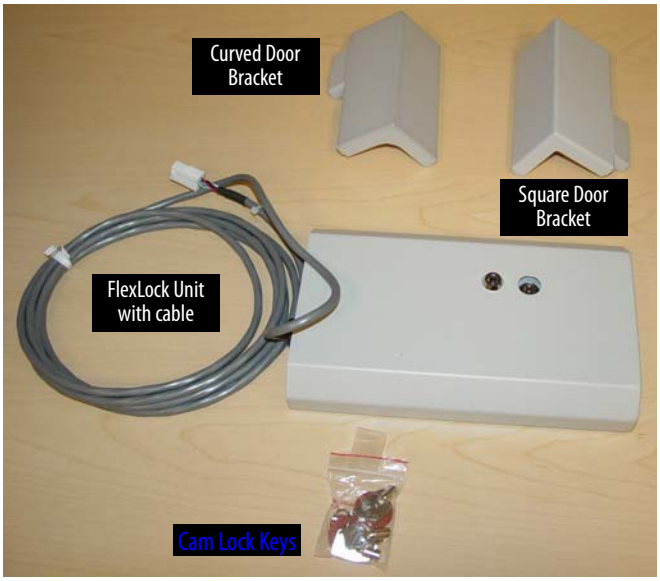

Figure 2-1. FlexLock Kit #14-7043

- **Installation Kit #20-6023**: Includes the TempCheck temperature probe

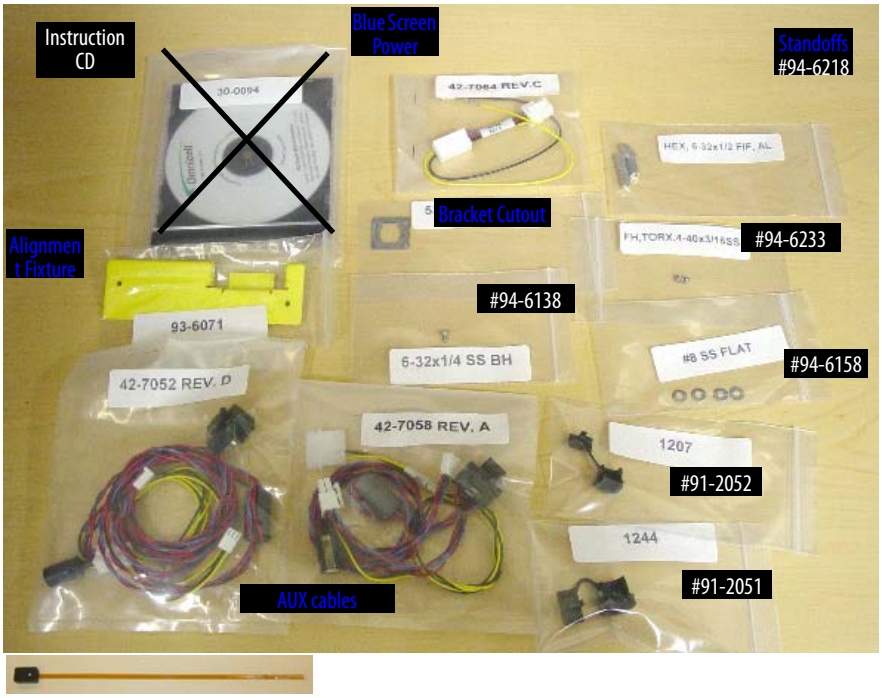

Figure 2-2. FlexLock Installation Kit #20-6023 with TempCheck probe (#15-7105) [bottom]

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- **TempCheck Retrofit Kit #20-6037**: Includes the FlexLock inner housing with the TempCheck compatible PCBA #40-3013

Figure 2-3. TempCheck Retrofit Kit #20-6037. Temperature probe shown wrapped in anti-static protection

Temperature probe shown un-wrapped from anti-static protection.

Figure 2-4. Temperature probe and attached ribbon-cable, ready for installation

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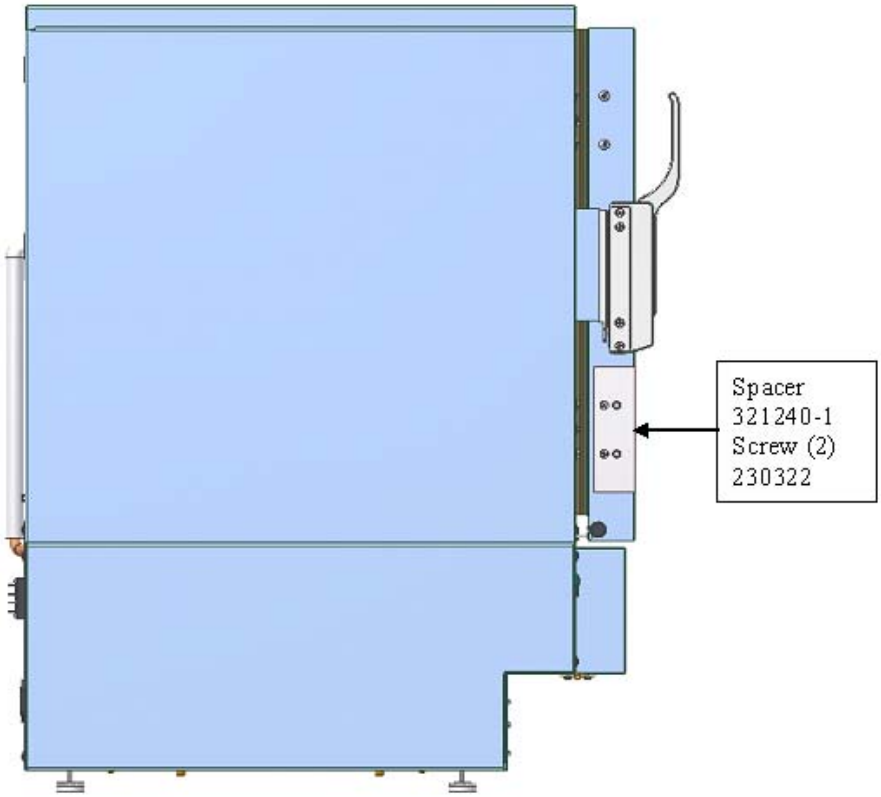
Helmer Parts

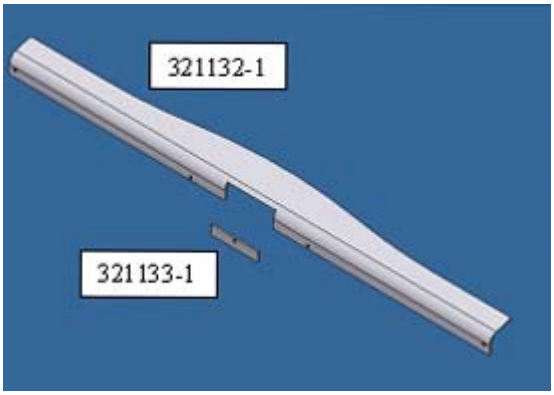
Under Counter Refrigerator

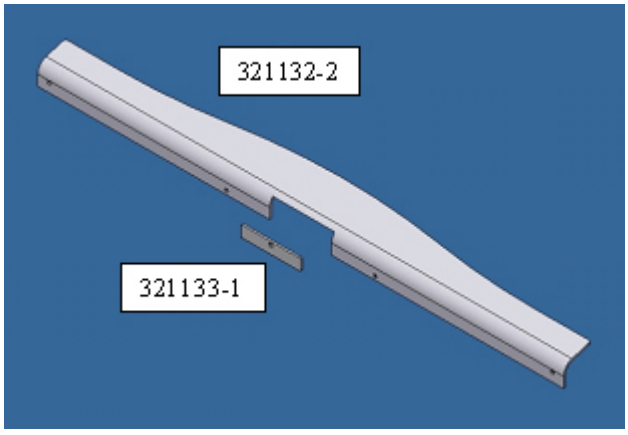
- 1 Spacer (321240-1)
- 2 Philip screws (230322)



11 Cubic Foot / 20-25 Cubic Foot Refrigerator

- Omnicell FlexLock handle: (20-25 cu. ft. = 321132-1) (11 cu. ft. = 321132-2)
- Spacer block (321133-1)





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Kits

Special accessories are available for facilities that install the Omnicell FlexLock on Helmer upright refrigerators, undercounter refrigerators, and undercounter freezers.

FlexLock Compatible Door Handles (Upright Models)

The door handle features a cutout and spacer which enable the FlexLock to wrap around the front and side of the door.

- Available for single door upright refrigerators 11, 20, 25, and 26.5 cu ft. (326, 572, 714, 750 l)
- Compatible with glass and solid doors
- Factory or field installation

FlexLock Adapter Kit (Undercounter Models)

The adapter kit includes an extension bar that mounts to the door of the unit, allowing the FlexLock to be properly installed.

- Adapter kits available for undercounter refrigerators and freezers (5 cu ft. / 142 l)
- Compatible with glass and solid doors; powder coated and stainless steel exteriors
- Factory installed or field installation kits available

Part #	Description	Size/Model	Notes
400848-2	Omnicell FlexLock Adapter Kit, Factory installed	5 cubic feet (model 142 l)	for UC Refrigerators and Freezers
400782-2	Omnicell FlexLock Compatible Door Handle, Factory installed	11 cubic feet (model 326 l)	
400782-1	Omnicell FlexLock Compatible Door Handle, Factory installed	20 cubic feet (model 572) 25 cubic feet (model 714) 26.5 cubic feet (model 750 l)	
400848-1	Omnicell FlexLock Adapter Kit, Field installation	5 cubic feet (model 142 l)	for UC Refrigerators and Freezers)
400875-2	Omnicell FlexLock Compatible Door Handle, Field installation	11 cubic feet (model 326 l)	
400875-1	Omnicell FlexLock Compatible Door Handle, Field installation	20 cubic feet (model 572) 25 cubic feet (model 714) 26.5 cubic feet (model 750 l)	

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Installation Instructions

Preparation

1. Use the template pattern (see "Template" on page C-1) to see if the cabinet or refrigerator is compatible with the FlexLock. There are two sides of the template—one for a square (90° angle) door, the other for a rounded door (used by such manufacturers as Sanyo or Kenmore).
   a. Align the template to the door and side surface.
   b. Make sure there are no gaps.

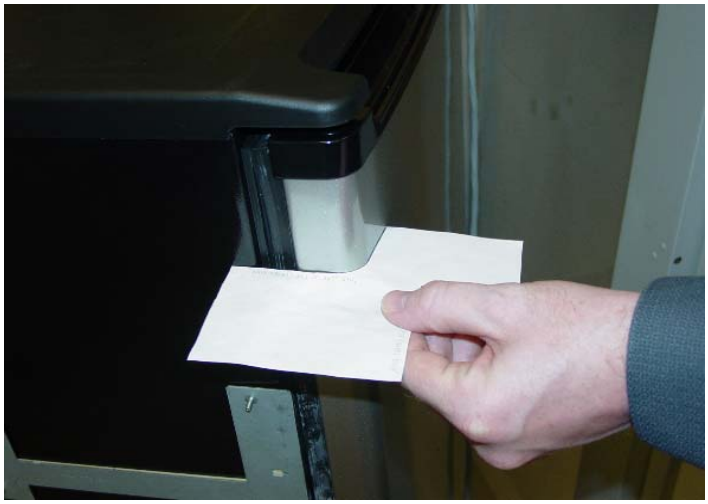

Figure 2-5. Using the template pattern

Important: Do not attempt to install the FlexLock if the refrigerator door does not fit the template pattern. See "Compatible Refrigerators" on page A-5 for space requirements and makes/models details.

2. Use an isopropyl alcohol/water mix to clean the refrigerator or cabinet surface where the FlexLock is to be placed (side where door opens—not the hinged side).

FlexLock Assembly

1. Choose a location on the refrigerator or cabinet—allowing room for the Flexlock and accessing the refrigerator/cabinet handle.

Note: If installing the TempCheck probe, make sure the cross bar of the mounting bracket is not in line with a shelf inside the refrigerator. The TempCheck flex circuit should be able run along the inside wall of the refrigerator.

2. Select the correct door adapter for the door type.

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Door Bracket Assembly

1. Remove the three T-8 screws which hold the cover plate to the door plate using a T-8 Torx Driver and retain them for later use.

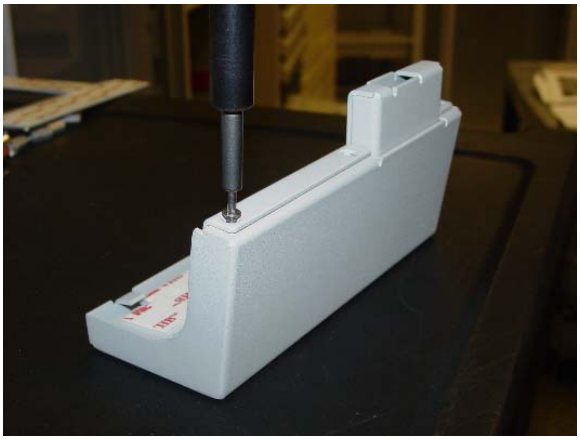

Figure 2-6. Removing the cover plate

2. Remove the cover plate.
3. Remove the four 5/16 nuts which hold the door plate to the plate adapter using a 5/16 nut driver.

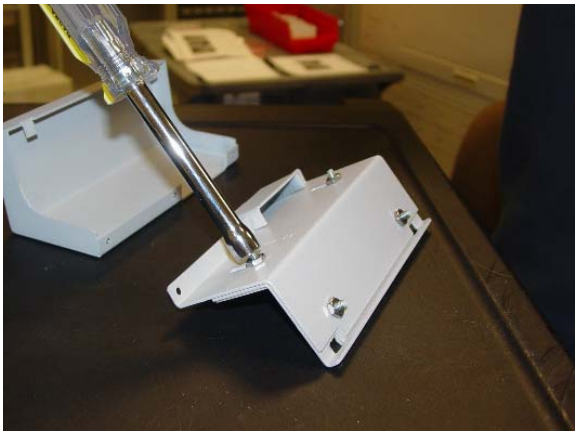

Figure 2-7. Removing the door plate from the plate adapter

4. Remove the door plate.

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Test Fit

1. Test fit the door adapter against the door corner. Bend the adapter slightly to match the angle of the refrigerator if needed. A close fit is required for strength.

Figure 2-8. Testing the door adapter fit

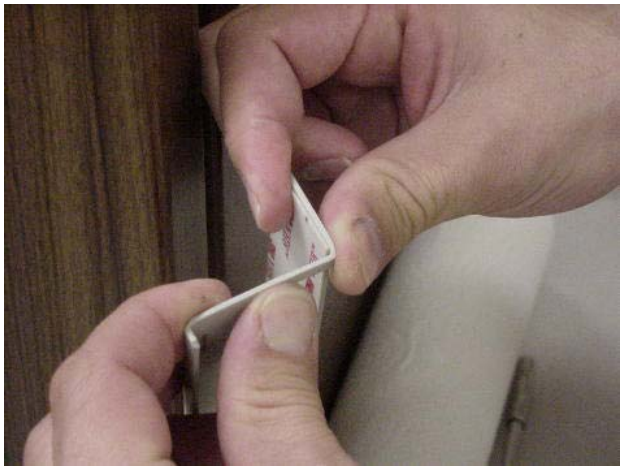

Figure 2-9. Bending the door adapter

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2. Attach the door adapter to the correct door plate using four 5/16” Hex nuts. Hand tighten.

Figure 2-10. Assembling the door brackets

3. Test fit the door bracket assembly against the door corner.

Figure 2-11. Testing the door bracket assembly fit

Helmer Fridge Adjustment

If attaching the FlexLock to a Helmer refrigerator, extra steps and parts are needed. This setup can take up to 15 minutes. Secure the contents of the refrigerator (if any) in a secure, temperature controlled container/area during the procedure.

For the 11 cubic feet refrigerator, do the following steps:

1. Remove the existing handle from the door by removing the five mounting screws.
2. Secure the Omnicell Flexlock handle to the door using four of the original screws (two on top and two at the bottom).
3. Secure the spacer block to the door using the middle screw. Make sure that one edge lines up with the front face of door.

For the under counter refrigerator, do the following steps:

1. Remove two of the bottom door screws.

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2. Install the spacer by rotating it into position with the two screw holes aligning with the mounting holes.
3. Make sure the spacer is flush with the front of the door. If the spacer is not flush, rotate the spacer into position with the other two mounting holes to obtain the flush position.
4. Secure the spacer with two Phillips flat head screws provided with the kit.

Mounting Bracket

1. Use #2232 cam lock key to move the keyhole cover plate to the open (unlocked) position.
2. Remove the T-10 screw in back with a T-10 Torx driver.
3. Put on an ESD wrist strap and properly ground it.

Figure 2-12. Removing the back screw

4. Slide the outer housing back, then lift off.

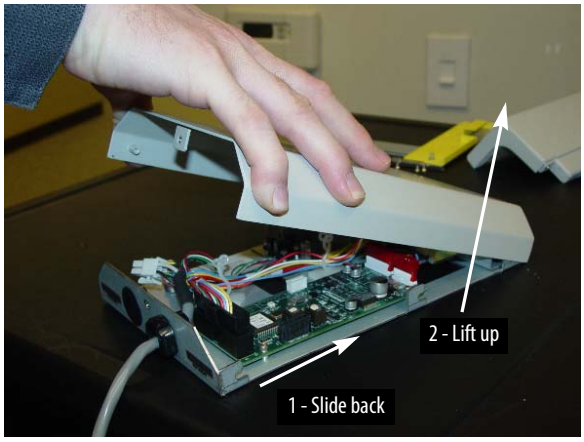

Figure 2-13. Removing the outer housing

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5. Remove the four 5/16" hex standoffs in each of the inner housing corners and retain them for later use.

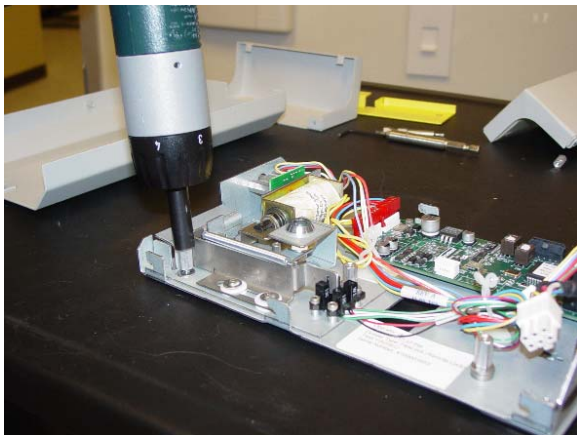

Figure 2-14. Removing the standoffs

6. Lift the inner housing off.

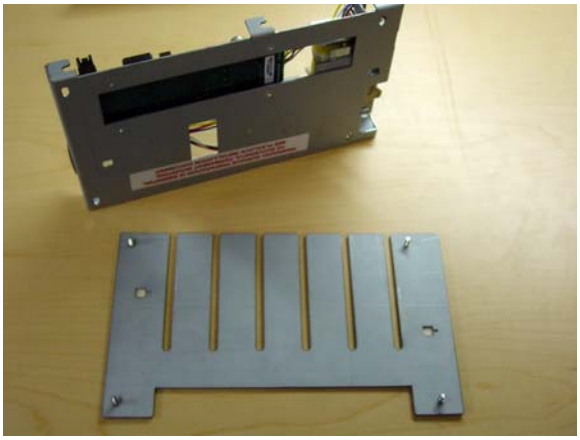

Figure 2-15. Removing the inner housing

Alignment Fixture

1. Place the mounting bracket so that the crossbar is toward the bottom and the threaded studs are facing up.

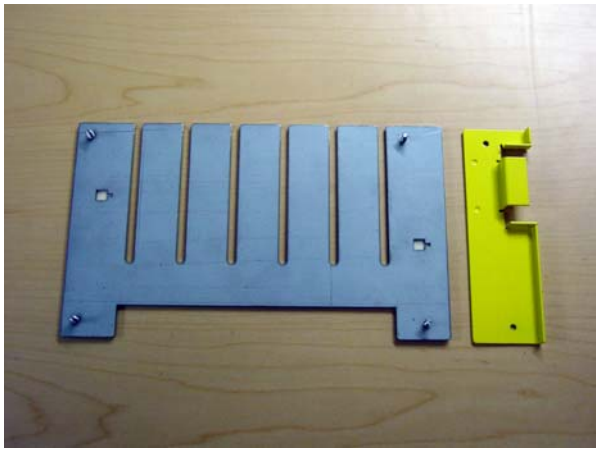

Figure 2-16. Arranging the bracket assembly

2. Lay the alignment fixture over the right side of the mounting bracket. Align the fixture's offset stud holes with the bracket studs. The fixture's cutout should be facing right.

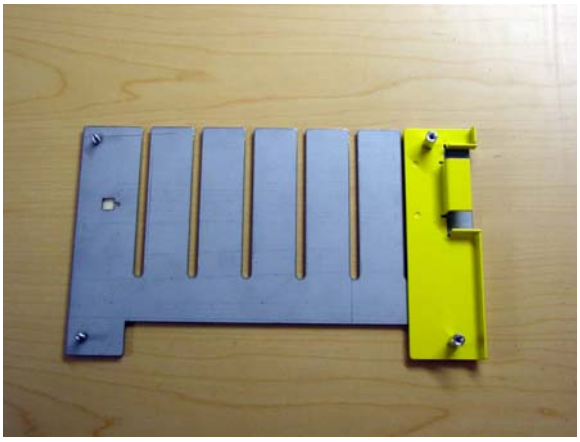

Figure 2-17. Placing the alignment fixture on the mounting bracket

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3. Use two of the standoffs (removed from the inner housing) to keep the fixture in place. Do not tighten.
4. Slide in the door bracket assembly's lock tab into the alignment fixture cutout.
5. Tighten the standoffs.

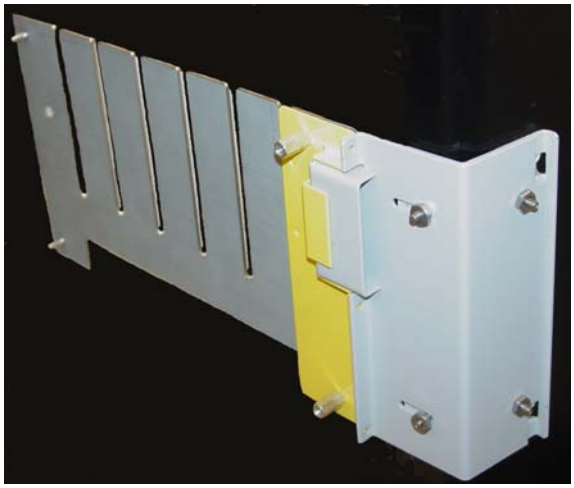

Figure 2-18. Completed bracket assembly with alignment fixture

Bracket Assembly

1. Fit the complete bracket assembly on the cabinet/refrigerator.

Figure 2-19. Fitting the whole bracket assembly

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2. Turn the brackets over and remove the protective film from the adhesive strips for the mounting bracket and the side of the inner door bracket. Leave the film cover on the strip that will go on the front of the door.

Figure 2-20. Removing adhesive strip covers

3. Fit the door bracket assembly to the cabinet/refrigerator and press firmly on the mounting bracket and the side of the door bracket assembly.

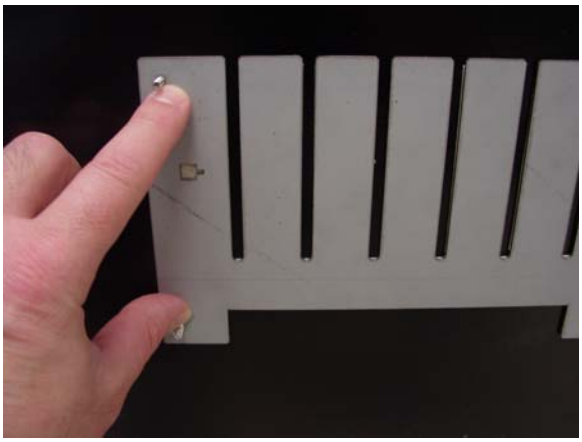

Figure 2-21. Bonding the bracket assembly

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4. Remove the alignment fixture.

Figure 2-22. Bracket assembly without the alignment fixture

5. Open the refrigerator/cabinet door.
6. Press firmly on the mounting bracket to assure the adhesive has full contact.

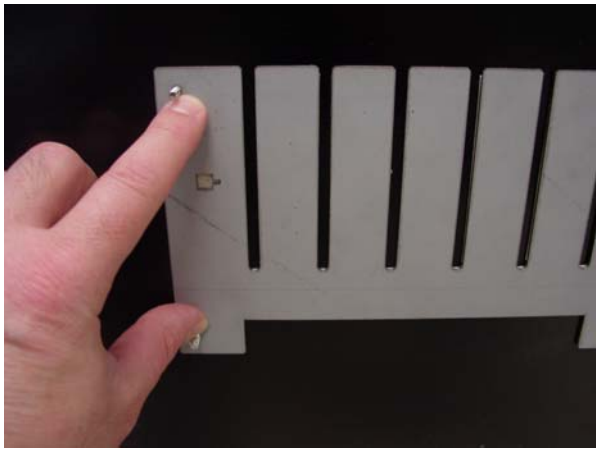

Figure 2-23. Pressing the mounting bracket

7. Close the refrigerator/cabinet door.

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8. Remove the four 5/16” hex nuts to remove the door plate.

Figure 2-24. Removing the door plate

9. Bend the door adapter back slightly to peel off the adhesive strip cover.

Figure 2-25. Bending the door adapter

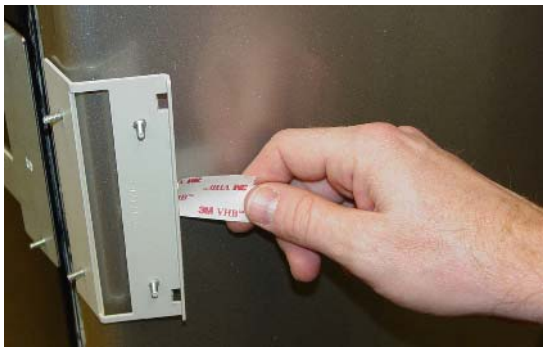

Figure 2-26. Stripping the adhesive cover

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10. Press the door adapter firmly in place, to assure full contact from the adhesive.

Figure 2-27. Bonding the door adapter

Important: Wait until the bond is set before proceeding to the next step. At room temperature, it will take 20 minutes for 50% bond strength; 24 hours for 90% bond strength; 72 hours for 100% bond strength. The process can be sped up by increasing the temperature 150° F for an hour.

If applicable, the TempCheck probe can be installed while waiting for the bonding process. Refer to"TempCheck Installation" on page 2-19.

11. Re-attach the door plate to the door adapter and tighten the four 5/16" nuts.

Figure 2-28. Re-attaching the door plate

12. Open the door of the refrigerator/cabinet.

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13. Match the notches on the cover plate to the door plate openings.

Figure 2-29. Matching notches

14. Move the cover plate forward until it fits without gaps.

Figure 2-30. Placing the cover plate

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15. Secure the cover plate to the door plate with the three retained T-8 Torx screws to the side of the front cover.

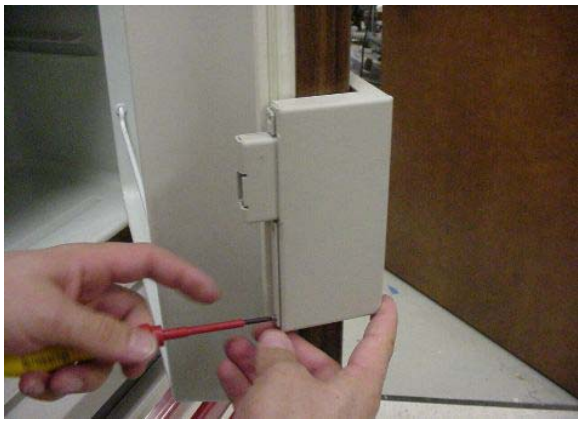

Figure 2-31. Securing the cover plate

TempCheck Installation

This section provides instructions for the *optional* installation of a TempCheck temperature probe with a new FlexLock. If performing a TempCheck retrofit for an existing FlexLock, refer to "Retrofit TempCheck" on page 2-81. If not using this optional feature, skip to the next section—"Inner Housing and Cover" on page 2-21.

Note: Most refrigerators have doors that open from the left (door hinges on the right side). If the door opens from the right side, some installation parts must be inverted.

1. Clean the intended path of the TempCheck probe flex circuit inside the refrigerator with a isopropyl alcohol/water mix. The path should be level with the mounting bracket's crossbar and not in line with a refrigerator shelf. The probe is placed on the side closest to the opening—opposite the hinges.
2. Align the contacts end of the flex circuit to the edge of the FlexLock mounting bracket and temporarily attach it with adhesive tape. Avoid taping over the circuit contacts at the end.

Figure 2-32. Aligning the end of the Flex Circuit with bracket.

3. Pull the flex circuit tight inside the refrigerator door.
4. Install the temperature sensor end inside the refrigerator. Remove the self-adhesive cover and pull the flex circuit tight while sticking it in place.

Figure 2-33. Installing the sensor inside the refrigerator.

5. Remove the tape from the contacts end of the flex circuit.
6. Peel off the self-adhesive cover from the flex circuit.
7. Pull the flex circuit tight while carefully adhering it from inside the refrigerator to the mid point of the mounting bracket.
8. Bend the exposed end of the flex circuit at a ninety degree angle. Bend up for refrigerators that open from the left...or down for refrigerators that open from the right. The exposed contacts should be facing the refrigerator wall in either case.

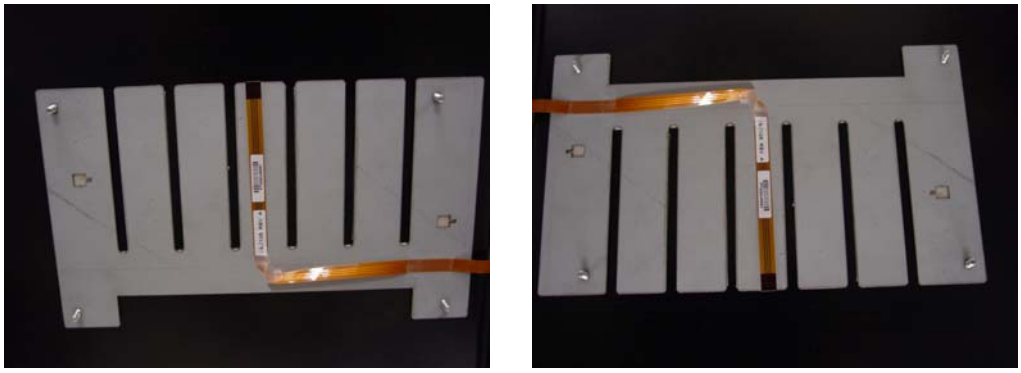

Figure 2-34. Bending the Flex Circuit end up (refrigerator opens from left).....or down (refrigerator opens from right).

Note: Be sure to complete the "Bracket Assembly" steps before going to the "Inner Housing and Cover" section.

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Inner Housing and Cover

1. Place the inner housing over the mounting bracket's threaded studs. If applicable, thread the TempCheck flex circuit through the inner housing opening.

Figure 2-35. Placing the Inner Housing in position.

2. Place a washer on the threaded studs, then tighten the four standoffs.
3. Set the PCBA S1 slide switch to either: (see Figure 2-34)
   - Terminated—if the FlexLock is at the end of the AUX daisy chain or the only AUX device
   - Not Terminated (not marked on PCBA)—if in the middle of a daisy chain with an External Return Bin (ERB) or another FlexLock cabled to it
4. Set the PCBA S2 slide switch to FlexLock.

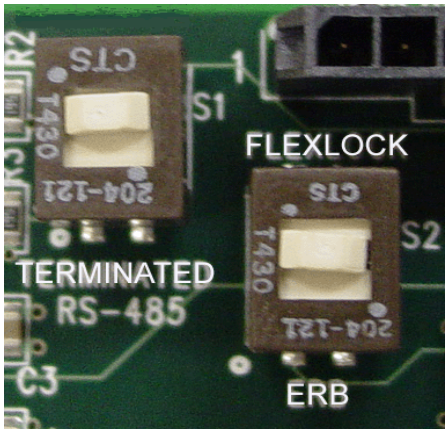

Figure 2-36. Checking the PCBA Switch Settings.

Note: The PCBA switch labels will be upside down when the inner housing is installed.

5. If installing the TempCheck probe:
   a. Pull out the Zero Insertion Force (ZIF) connector collar so that it is in the up (unlocked) position.
   b. Loop the TempCheck probe flex circuit around without twisting to plug it into the ZIF connector. The flex circuit contacts should be facing down (if refrigerator opens from the left) or up (if refrigerator opens from the right).
   c. Insert the flex circuit into the connector, then evenly press the ZIF connector collar down into the locked position.

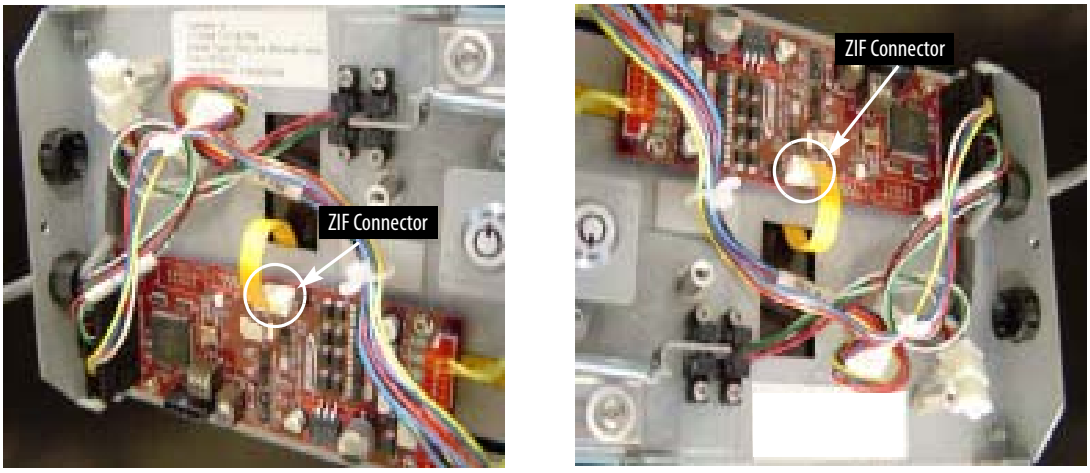

Figure 2-37. Connecting the Flex Circuit in the Housing Assembly

6. Install the FlexLock housing cover by (1) placing it over the inner housing offset to the front, then (2) sliding it back.

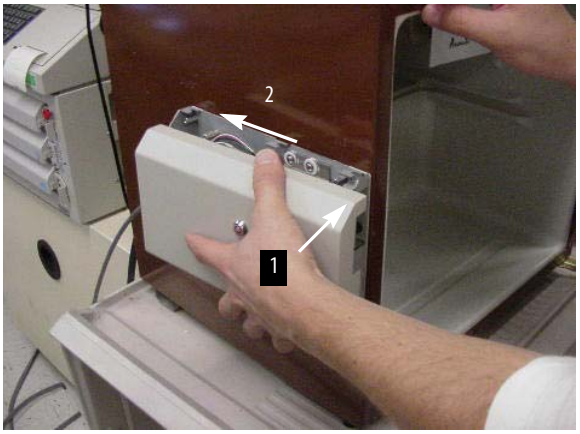

Figure 2-38. Placing the Housing Cover in position.

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Alignment

1. Close the refrigerator (or cabinet) door to check the lock assembly for clearance in three places.
   - The lock assembly should be vertically centered so that the gap at point 1 is the same as point 2.
   - The lock tab should move in/out of the locking slot with no interference at point 3.

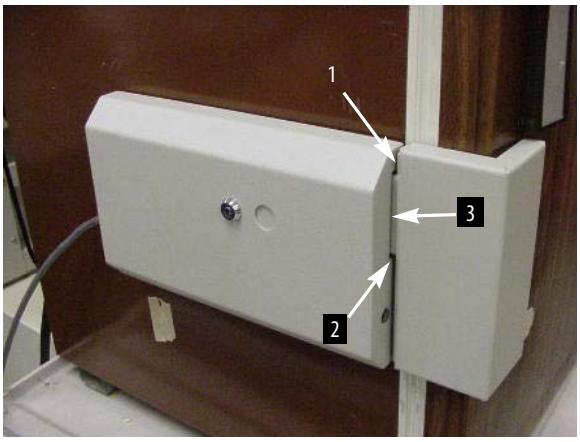

Figure 2-39. Checking the locking assembly.

2. If alignment adjustments are needed, remove the cover.

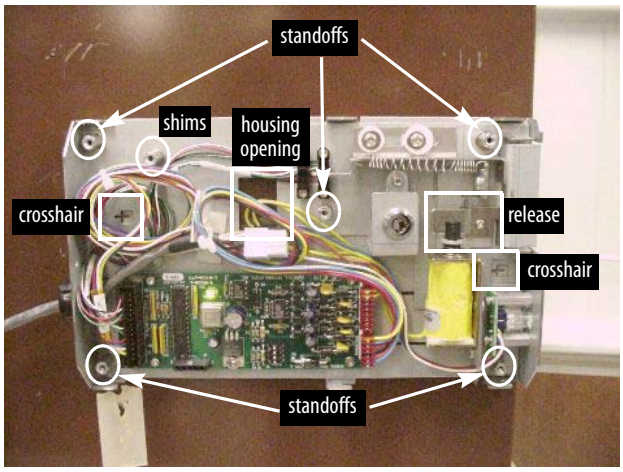

Figure 2-40. Alignment Features

3. To add space between the mounting bracket and the inner housing assembly:
   a. Pull the ZIF connector collar up to release the TempCheck flex circuit if present.
   b. Remove the four corner standoffs and washers.
   c. Remove the inner housing. Thread the flex circuit out of the housing opening if present.

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d. Remove the standoff (2nd left on inner housing) holding the extra washers.

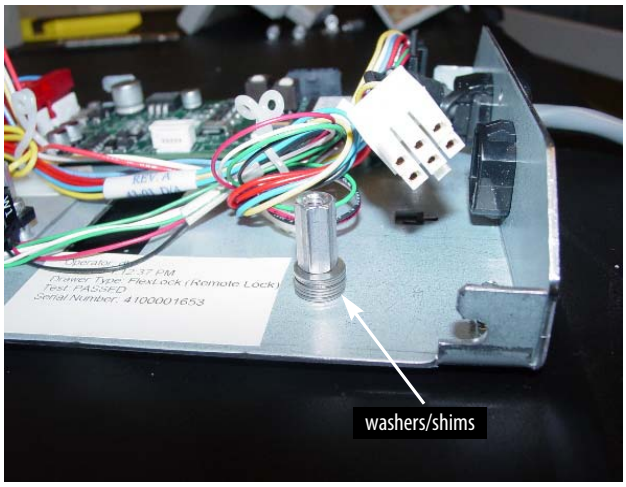

Figure 2-41. Washer/Shims under standoff

e. Remove the washers and replace the standoff.
f. Use the washers as shims by placing them on the four threaded studs.
g. Place the inner housing on the threaded studs now with shims.
h. Re-thread the TempCheck flex circuit back through the housing opening if present.
i. Place a washer on the threaded studs then tighten the four standoffs.

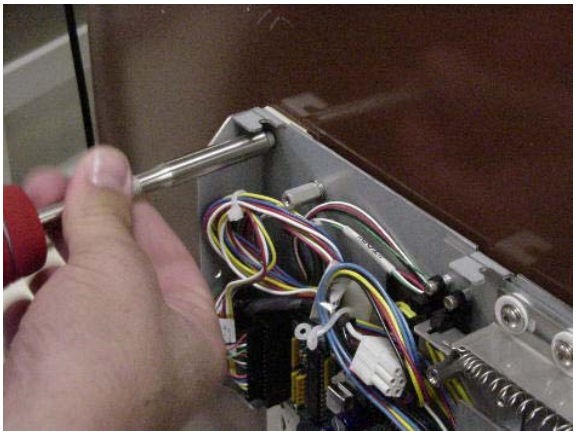

Figure 2-42. Adding space with shims

j. If installing the TempCheck probe:
    1. Pull out the Zero Insertion Force (ZIF) connector collar so that it is in the up (unlocked) position.
    2. Loop the flex circuit around to plug it into the ZIF connector. The exposed metal contact portion of the flex circuit end should be facing down.
    3. Evenly press the ZIF connector collar down into the locked position.

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4. Set the vertical alignment if needed.
   a. Loosen the standoffs as needed.
   b. Use a screwdriver with the two cross hairs. The screwdriver slot adjustment sets the position up and down from neutral. The neutral position is when the cross hairs are aligned in a cross formation.
   c. Tighten the standoffs.

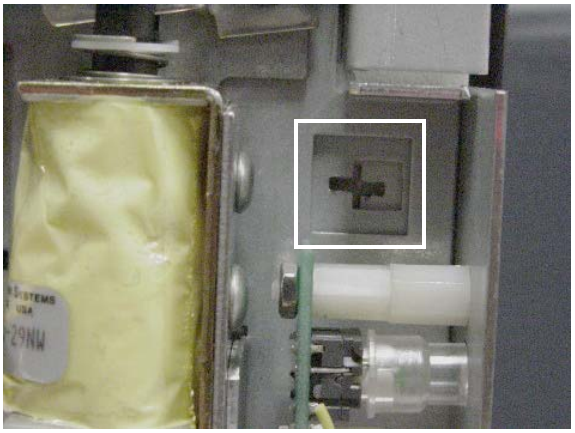

Figure 2-43. Aligning the inner housing with the Cross Hair.

5. To adjust the inner plate of the Lock Pawl:
   a. Loosening the middle and two right standoffs.
   b. Adjust pawl horizontally as needed.
   c. Re-tighten the standoffs.
6. Replace the housing cover.
7. Secure the housing cover with one T-10 Torx screw.

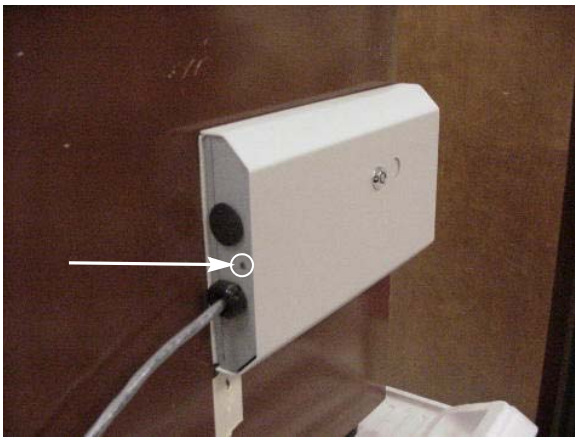

Figure 2-44. Securing the housing cover.

Cabling on G3 cabinets

This section provides instructions for various FlexLock cable retrofits to G3 hardware.

Cabling for the G3 OmniTT, Omni Rx, Half-Cell, Anesthesia Workstation (AWS) and Anesthesia Table Top (AWS TT)

Connect the FlexLock to the G3 version of the OmniTT, Omni Rx, Half-Cell, Anesthesia Workstation (AWS) and Anesthesia TableTop (AWS TT) using the wiring procedure described in "Cabling for the OmniTT G3" on page 2-27.

Cabling for the OmniSupplier G3

Connect the FlexLock to the OmniSupplier using the wiring procedure described in"Cabling for the OmniSupplier G3" on page 2-32.

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Cabling for the OmniTT G3

This section provides instructions for attaching a FlexLock to the following cabinet types:

- OmniTT
- OmniRX
- Half Cell Cabinet
- Anesthesia Workstation
- AnesthesiaTT

1. Power down the cabinet.

Caution: Put on an ESD wrist strap and ground it before working on the cabinet electronics.

2. Access the electronics sled.
   a. Lift up the sled cover.
   b. Prop open using a switch panel housing.

Figure 2-45. Propping the sled cover

Note: The Anesthesia Workstation sled cover can be removed completely.

3. Remove both AUX cable connectors at the rear of the electronic sled by pushing down on the AUX connector and pulling it out through the back.

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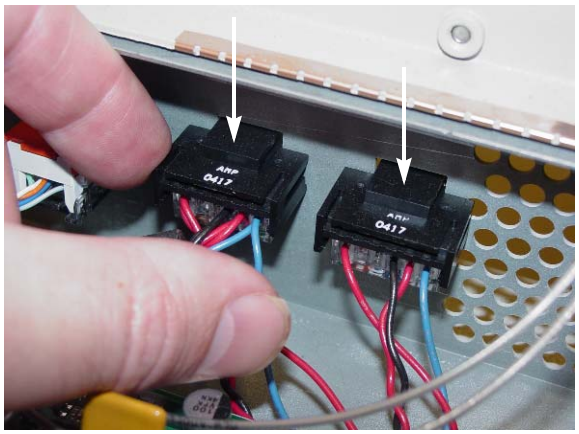

Figure 2-46. Removing the AUX connectors

4. Unplug the 4 pin connector from AUX J24 (US Logic/Windows 95) or J10 (ETX/Windows XP) on the power-comm board.
5. Remove the cable.

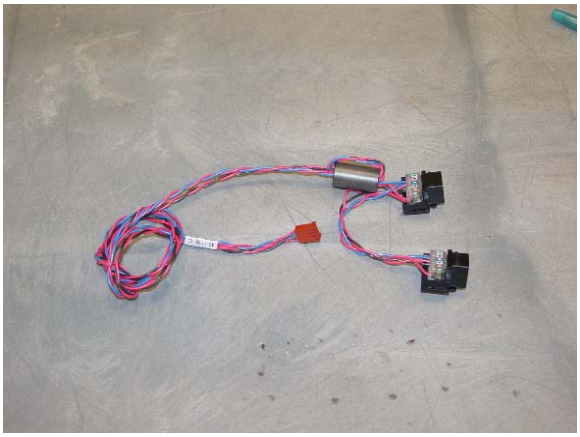

Figure 2-47. AUX cable removed

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6. Insert the black AUX connector from the Omnicell FlexLock retrofit AUX cable assembly into the first opening.

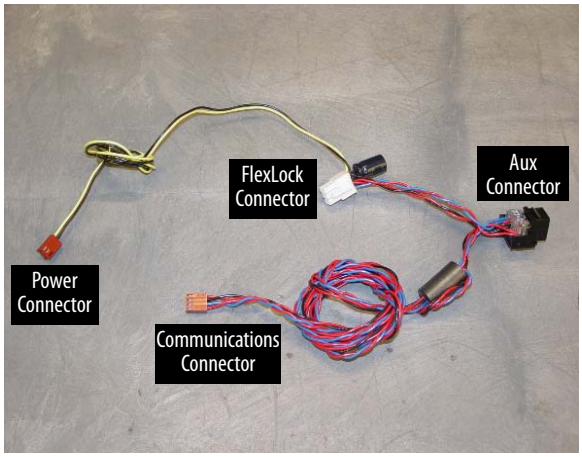

Figure 2-48. #42-7052 AUX Cable Assembly

7. Refer to the following table when connecting the 4-pin and 3-pin cables.

Board Type	Com 4-Pin Connection	Power 3-Pin Connection
US Logic	This motherboard does not support auxiliary cabinets, FlexLock or ERB.	
OmniRx Power Com (40-7056)	J10	J4, J5 (MAG), J16
Power Com2 (40-1015)	J16	4-pin HDD power connector from AC/DC power supply
Power Com3 (40-1021, 1050)	J20	J4 / J5 / J6

a. Insert the 4-pin connector into the appropriate port (varies by board).

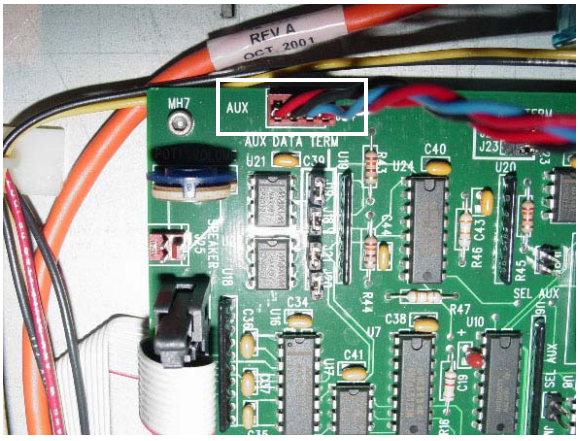

Figure 2-49. Connecting the communications cable

b. Insert the 3-pin (blue and yellow cables) connector from the retrofit AUX cable assembly into the appropriate port (varies by board).

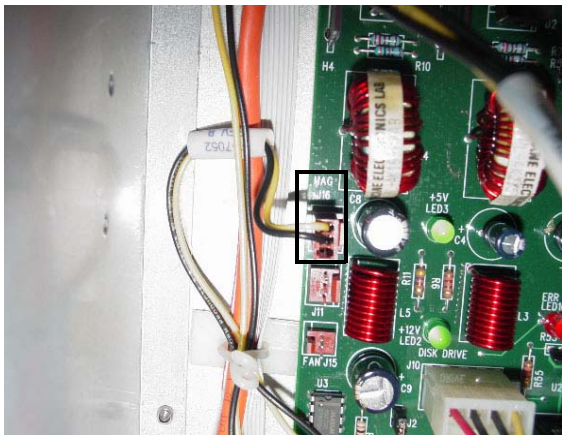

Figure 2-50. Connecting the power cable

8. Thread the Omnicell FlexLock cable (white) through the 2nd AUX opening.
9. Slip the metal retaining bracket (1" square) over the white connector and position it on the inside rear of the metal rail.

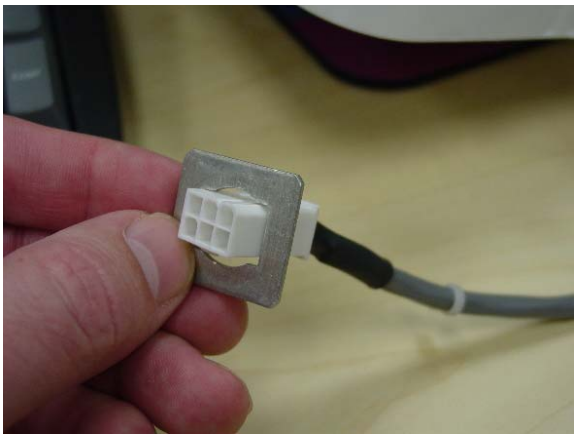

Figure 2-51. Positioning the retaining bracket

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10. Connect the FlexLock cable to the cable assembly.

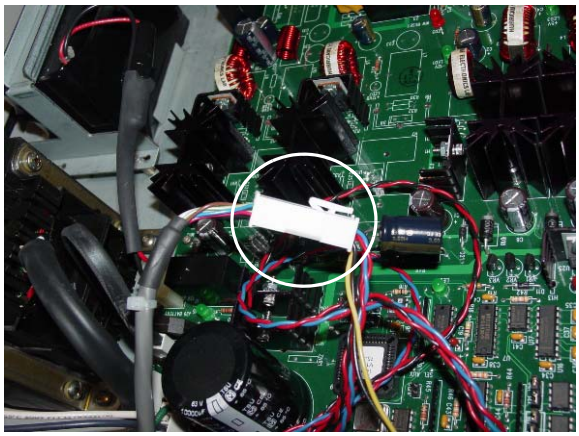

Figure 2-52. Connecting the FlexLock cable

11. Snap on the black strain relief over the outside Omnicell FlexLock Power Comm cable and push it half way through the 2nd AUX opening. The metal retainer should snap into the groove of the black strain relief and secure the cable to the inside of the rear panel.

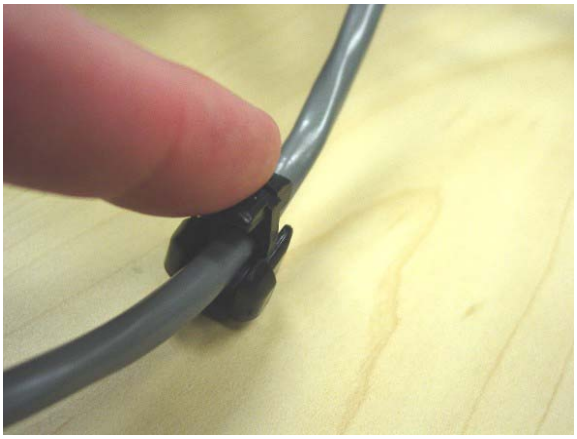

Figure 2-53. Snapping on the strain relief

12. Tuck all the cables out of the way. Use cable ties as needed.
13. Close the sled cover.
14. Remove the ESD wrist strap.
15. Switch the power on.
16. Proceed to "Software Implementation" on page 3-1 for software configuration instructions for FlexLock and TempCheck if installed.

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Cabling for the OmniSupplier G3

Use these steps when connecting a FlexLock to an OmniSupplier.

1. Power down the cabinet.

Caution: Put on an ESD wrist strap and ground it before working on the cabinet electronics.

2. Access the PC Box.
3. Remove both AUX cable connectors at the rear of the PC box by pushing down on the AUX connector and pulling it out through the back.

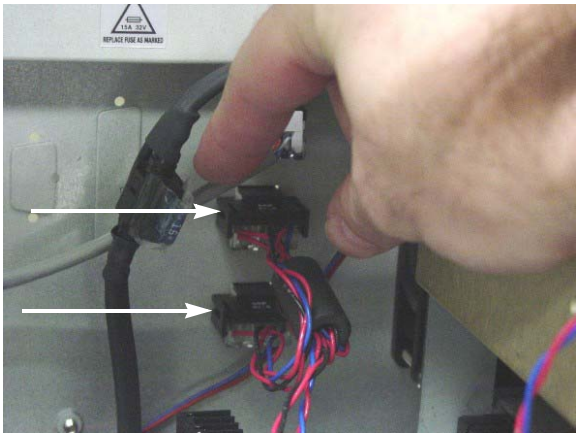

Figure 2-54. Removing the AUX connectors from the PC box

4. Unplug the 4-pin connector from Aux Com J16 on the power-comm board.
5. Remove the AUX cable.
6. Insert the black AUX connector from the Omnicell FlexLock retrofit AUX cable assembly into the first opening.

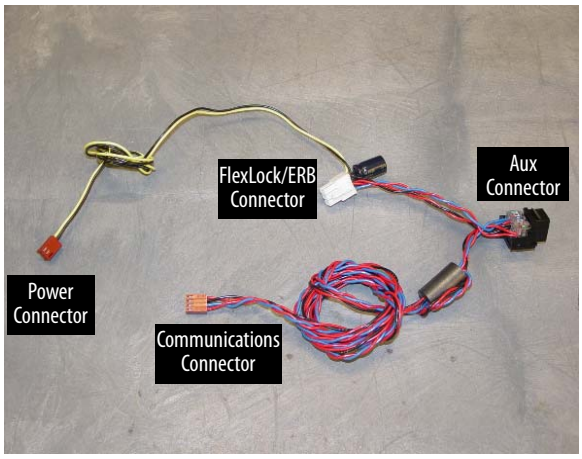

Figure 2-55. AUX Cable Assembly #42-7058

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7. Insert the 4 pin header connector on the retrofit AUX cable assembly into J16, labeled AUX COM on the UPS board.

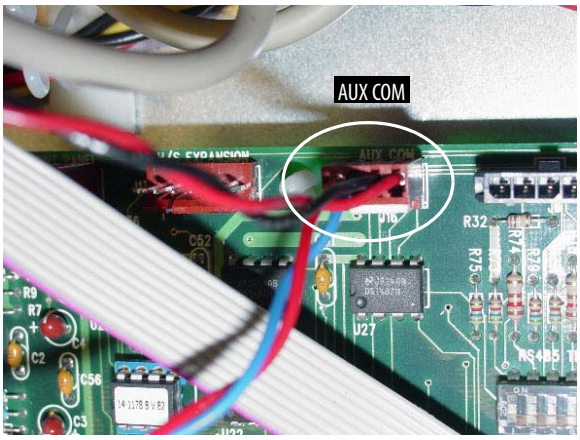

Figure 2-56. Connecting the communication cable

8. Insert the power (blue and yellow cables) connector from the retrofit AUX cable assembly into power supply connector.

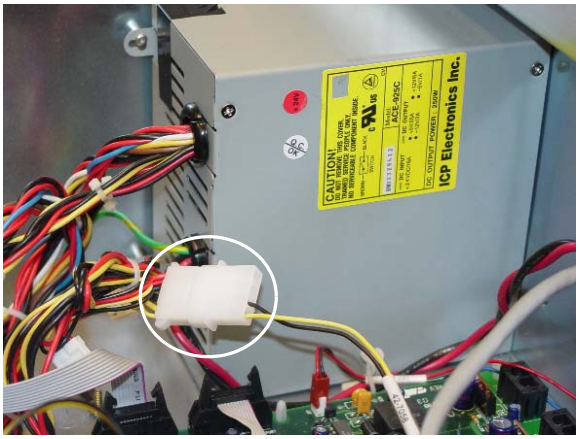

Figure 2-57. Connecting the power cable

9. Thread the Omnicell FlexLock cable (white) through the 2nd AUX opening and connect it to the cable assembly.

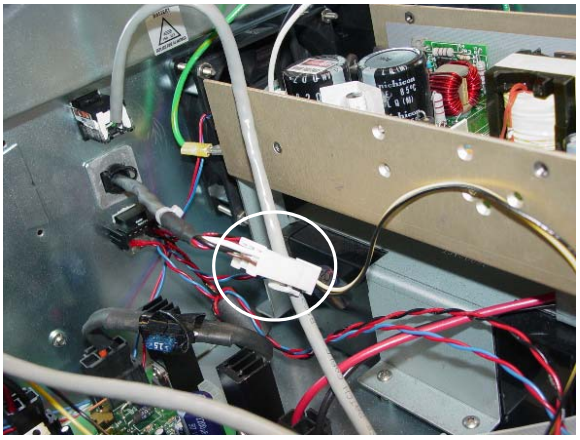

Figure 2-58. Connecting the FlexLock cable

10. Slip the metal retaining bracket (1" square) over the white connector and position it on the inside rear of the metal rail.
11. Snap on the black strain relief over the outside Omnicell FlexLock Power Comm cable and push it half way through the 2nd AUX opening. The metal retainer should snap into the groove of the black strain relief and secure the cable to the inside of the rear panel.

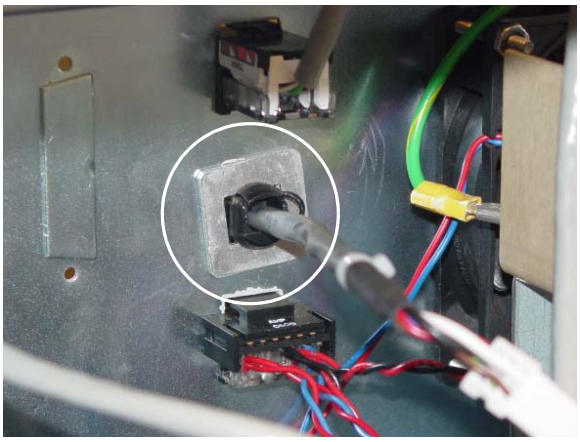

Figure 2-59. Inside view of bracket and strain relief

12. Tuck all the cables out of the way. Use cable ties as needed.

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13. Secure the PC Box.

Figure 2-60. Rear View of OmniSupplier PC Box

14. Remove the ESD wrist strap.
15. Switch the power on.
16. Proceed to "Software Implementation" on page 3-1 for software configuration instructions for FlexLock and TempCheck if installed.

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Cabling on G3 Cabinets with G4 Console Upgrade

This section provides instructions for various FlexLock cable retrofits to G3 hardware that has been upgraded with G4 control electronics.

Cabling for the AWS G3 with G4 console upgrade

Connect the FlexLock to the G3 AWS upgraded to G4, using the wiring procedure described in "Cabling for the Anesthesia Workstation G3 with the G4 Upgrade" on page 2-37.

Cabling for the OmniTT, Omni Rx and Half-cell cabinets with G3 to G4 Console Upgrades

Connect the FlexLock to the OmniTT G3 with G4 upgrade using the same wiring procedures as for the OmniTT G4 described in "Cabling for the OmniTT G4" on page 2-44.

Cabling for the One-, Two-, Three Cell with a G4 Console Upgrade

Connect the FlexLock to the G3 with G4 upgrade cabinet using the wiring procedure described in "Cabling for the One-, Two-, Three-Cell G4 Cabinets" on page 2-56.

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Cabling for the Anesthesia Workstation G3 with the G4 Upgrade

1. .Remove the work-surface.
   a. Swivel the monitor out of the way.

Figure 2-61. Monitor swiveled away from work-surface

   b. Use the cam lock key #2036 to unlock the work-surface.
   c. Tilt the work-surface up, pull it forward, then lift it up and away. Set it aside.

Figure 2-62. Tilting the work-surface

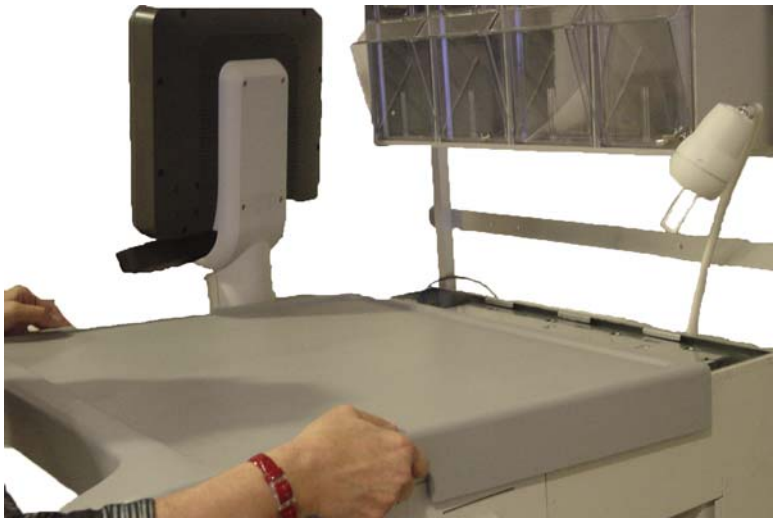

Figure 2-63. Pulling the work-surface forward

2. Remove the plate on the upper left of the rear panel of the electronics sled.
   a. On the left side of the electronics sled, inside the cabinet, remove the screw that attaches the plate to the frame.
   b. Press the plate to the inside to remove it.

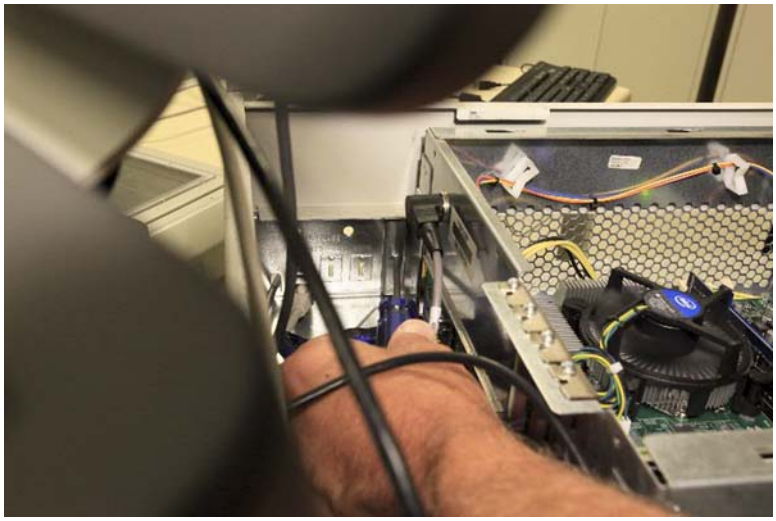

Figure 2-64. Location of the plate-retention screw

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3. Feed the FlexLock Power/Com. cable through the resulting hole

Figure 2-65. Feeding the FlexLock Power/Com. cable through the slot opened by removing the plate

4. Connect the FlexLock adapter cable to the E-Box.

Figure 2-66. E-Box connection point for FlexLock on AWS G3 with G4 console upgrade

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5. Route the gray FlexLock Power/Com. cable around the front of the E-Box and connect it to the adapter cable.

Figure 2-67. Routing the FlexLock cable around the front of the E-Box

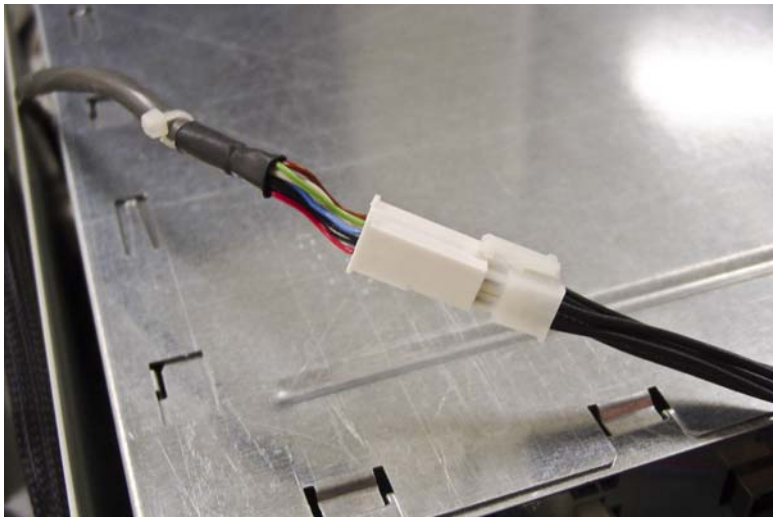

Figure 2-68. FlexLock Power/Com. cable connected to FlexLock adapter cable

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6. Position the Flex Lock Power/Com. cable in the slot in the plate removed in step 2.

Figure 2-69. Showing the right-side cable exit from the outside of the cabinet

7. Check the cable inside the cabinet for proper alignment, then secure the plate with the original fastener.

Figure 2-70. Interior view of the cable exit as it passes through the slot in the rear panel

8. If required, bundle excess FlexLock Power/Com. cable inside the chassis using cable ties.

Figure 2-71. Use zip-ties to secure excess cable

9. Secure the FlexLock Power/Com. cable to the bracket on the inside of the chassis for strain relief.

Figure 2-72. Use zip-ties to secure the cable to the chassis and provide strain relief

10. Replace the work-surface on the cabinet and lock it.

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Cabling on G4 Cabinets

This section provides instructions for various FlexLock cable retrofits to G4 hardware.

Cabling for the OmniTT G4, OmniRx G4 and Half-Cell G4

Connect the FlexLock to the OmniTT, the OmniRx G4 and Half-Cell G4 using the wiring procedure described in "Cabling for the OmniTT G4" on page 2-44.

Cabling for One-, Two-, Three-Cell G4 Cabinets

Connect the FlexLock to One-, Two, and Three-Cell G4 Cabinets using the wiring procedure described in"Cabling for the One-, Two-, Three-Cell G4 Cabinets" on page 2-56

Cabling for the Anesthesia Workstation (AWS) G4

Connect the FlexLock to the AWS G4 using the wiring procedure described in "Cabling for the Anesthesia Workstation (AWS) G4" on page 2-43

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Cabling for the OmniTT G4

If possible the FlexLock should be installed on the left side (monitor side) of the OmniTT G4, to reduce cable-strain relief.

Cabling for the FlexLock on the left side of the Cabinet

1. Remove the lid from the cabinet.
   a. Use the #2378 cam lock key to unlock the lid.

Figure 2-73. Unlocking the lid

   b. Rotate the lid up to release it from the chassis hooks and place it aside.

Figure 2-74. Removing the lid

Note: Although it is possible to prop the cover open with the kick-stand, removing it provides better access.

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2. Holding the notch on the back of the printer paper holder, rotate the printer paper holder forward and remove it.

Figure 2-75. Removing the paper holder

3. Use a flat-head screwdriver to remove the metal cutout on the back of the cabinet, rocking it back and forth until the metal breaks away.

Figure 2-76. Opening the slot for the FlexLock Power/Com. cable

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Figure 2-77. FlexLock Power/Com. cable slot location

Note: A limited number of systems might not have this cutout. In such a case, it is necessary to route the cable on the right, see "Cabling for the FlexLock on the right side of the Cabinet" on page 2-52

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4. Pass the FlexLock Power/Com. cable through the opening.

Figure 2-78. Passing the FlexLock Power/Com. cable through opening

Figure 2-79. Measuring length of cable inside cabinet

Note: Do not secure the ERB Power/Com. cable with the grommet yet to allow slack for routing the cable around the electronics sled.

5. Connect the FlexLock adapter cable to the FlexLock Power/Com. cable.

Figure 2-80. Attaching the adapter cable to the power and communications cable

Note: Do not connect the adapter cable to the electronics sled before routing, or the female connector will not clear the gap between the electronics sled and the frame.

6. Route the adapter cable along the front of the electronics sled.

Note: It might be necessary to flex the display assembly and front lid plastic to be able to pass the cable through the opening.

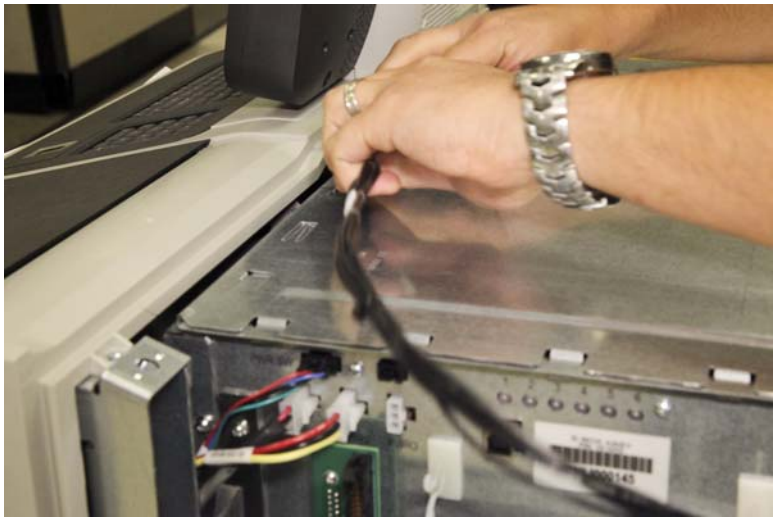

Figure 2-81. Routing cable around electronics sled

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7. Make sure the cable passes to the right of the kick-stand (Tinnerman tower) to avoid interference with the stand and/or damage to the cables.

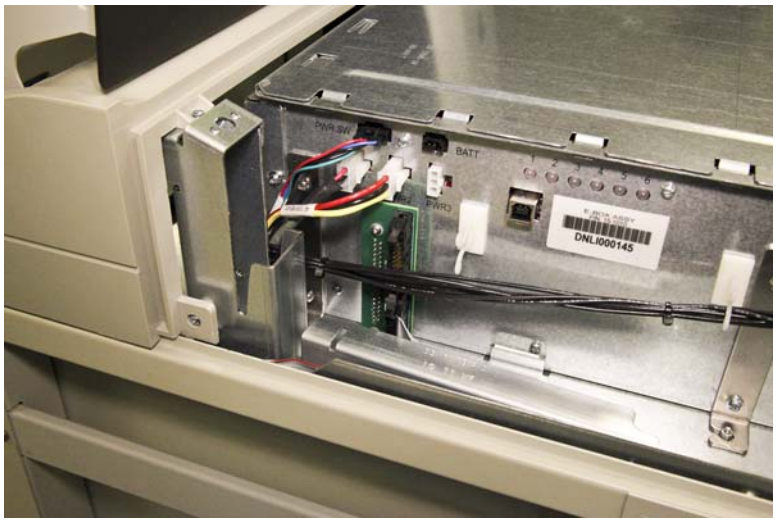

Figure 2-82. Cable next to Tinnerman tower

8. Connect the adapter cable to the E-Box.

Figure 2-83. Adapter cable attached to E-Box

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9. Insert the adapter cable into the corrugated slit tubing (# 81-1302) that is located behind the printer paper holder.

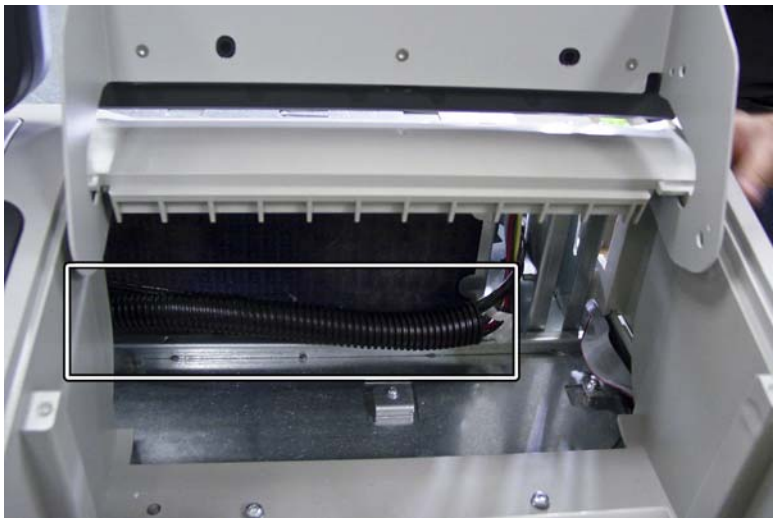

Figure 2-84. Corrugated slit tubing

10. Snap on the black grommet around the FlexLock Power/Com. cable on the outside.
11. Insert the grommet into the opening in the rear panel, by squeezing it with pliers.

Figure 2-85. Inserting the strain relief grommet

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12. Replace the paper holder by engaging the tabs with the large slots and rotating it into place.

Figure 2-86. Paper holder slots and replacing paper holder

Figure 2-87. Sliding the paper holder into place

13. Replace the lid by setting it on the holder hooks and rotating down.
14. Lock the lid.

Cabling for the FlexLock on the right side of the Cabinet

Note: Due to the lack of strain relief and potential for damage to the FlexLock Power/Com. cable upon repeated cover replacement/removal, mounting the FlexLock on the right side of the cabinet is not recommended. However, when an ERB or Flex Lock is located on the right of the OmniTT, this route is preferable because it reduces chafing and minimizes cable exposure.

1. Remove the lid from the cabinet.
   a. Use the #2378 cam lock key to unlock the lid.

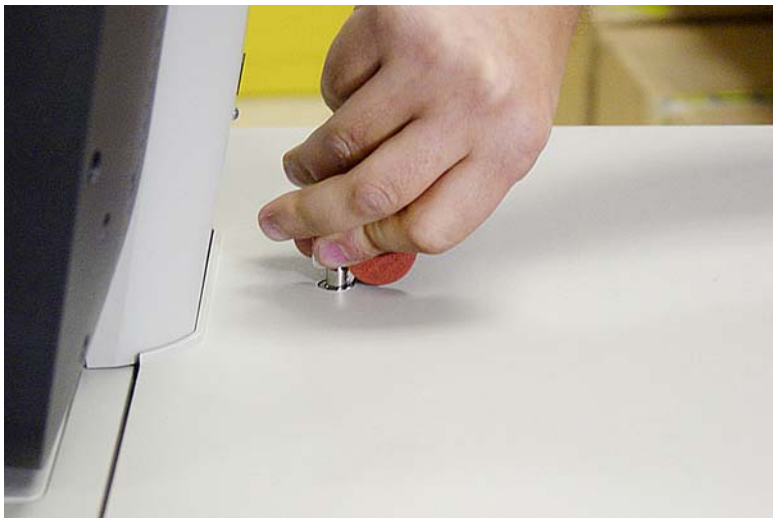

Figure 2-88. Unlocking the lid

   b. Rotate the lid up, and lift it from the hooks that hold it.

Figure 2-89. Removing the lid

   c. Place the lid aside.

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2. Connect the FlexLock adapter cable to the E-Box on the back right side.

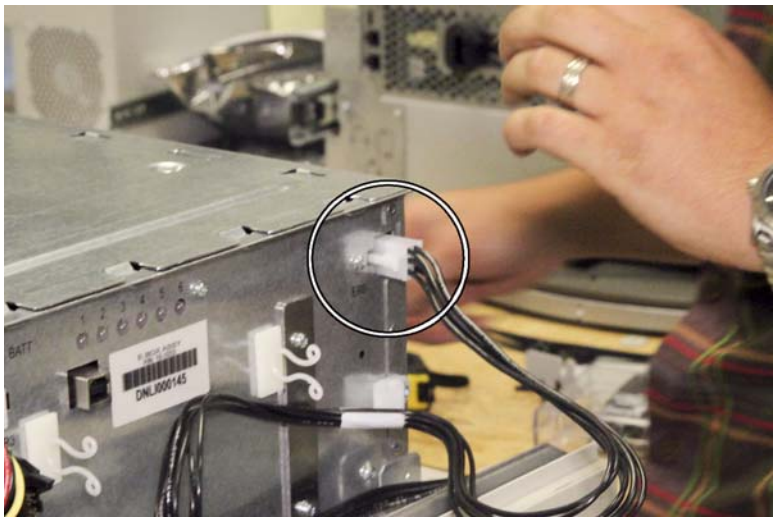

Figure 2-90. Showing the connection to the E-Box inside the electronics sled

3. Connect the other end of the adapter cable to the FlexLock Power/Com. cable.

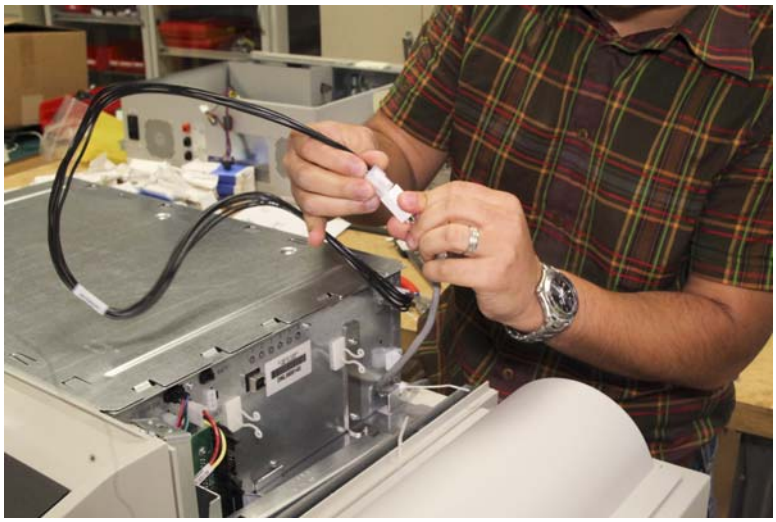

Figure 2-91. Connecting the FlexLock Power/Com. cable to the FlexLock adapter cable

Note: For security-integrity reasons, the Power/Com. cable must pass through the plane of the locked area and be connected inside the area covered by the lockable cover. Do not pass the adapter cable through the plane of the locked area and have the connection outside of the locked area.

4. Secure the Power/Com. cable along the side of the electronics sled with a cable tie.

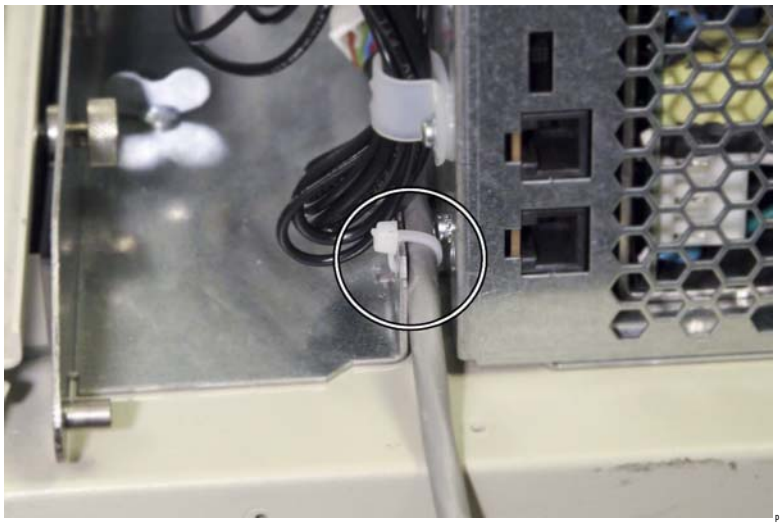

Figure 2-92. FlexLock Power/Com. cable secured next to electronics sled

Note: The Power/Com. cable must be secured to the sheet metal on the side closest to the electronics sled to ensure sufficient clearance when the cover is replaced and locked

5. Bundle part of the adapter cable into the P-clip and attach it to the electronics sled. This helps to contain spare cable from entanglement with the prop-stand.

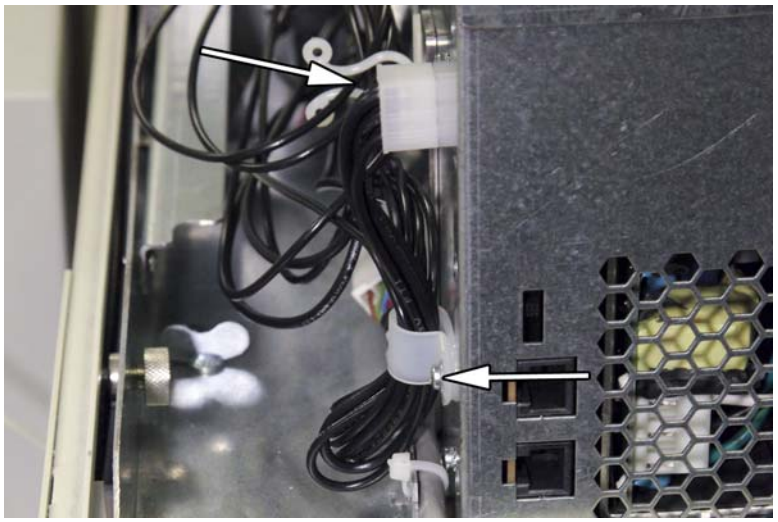

Figure 2-93. Adapter cable secured by P-clip

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6. Replace the lid by setting it onto the holder hooks and rotating down. Check that the cable is not chafed or compressed during this process.

Figure 2-94. FlexLock cable installed on right side of OmniTT G4 (seen from back)

7. Lock the lid.

Cabling for the One-, Two-, Three-Cell G4 Cabinets

Depending upon configuration, some One-, Two-, Three-cell cabinets will have the ERB/ FlexLock adapter cable pre-installed and attached to the PC Box before shipping. In such case, the only step required is to connect the FlexLock Power/Com. cable to the adapter cable on the back of the console.

If the adapter cable is not fitted, the cables must be installed as follows.

1. Insert a flat head screwdriver in the upper right cutout on the back of the left block-off plate of the console assembly and rock it back and forth until the metal breaks away, leaving an opening for the Power/Com. cable.

Figure 2-95. Opening a slot for the FlexLock cable

If mounting the FlexLock on the left side of the cabinet, Figure 2-88 shows another possible location to open for the Power/Com. cable.

Figure 2-96. Location of Power/Com. slot for mounting FlexLock on left side of cabinet

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2. **With an assistant**, pull the electronics sled all the way forward on the drawer slides, unlocking the drawer slides to allow extra access.

Note: Take care not to pull the electronics sled off the slides altogether. **Use an assistant** to make sure the PC Box does not fall.

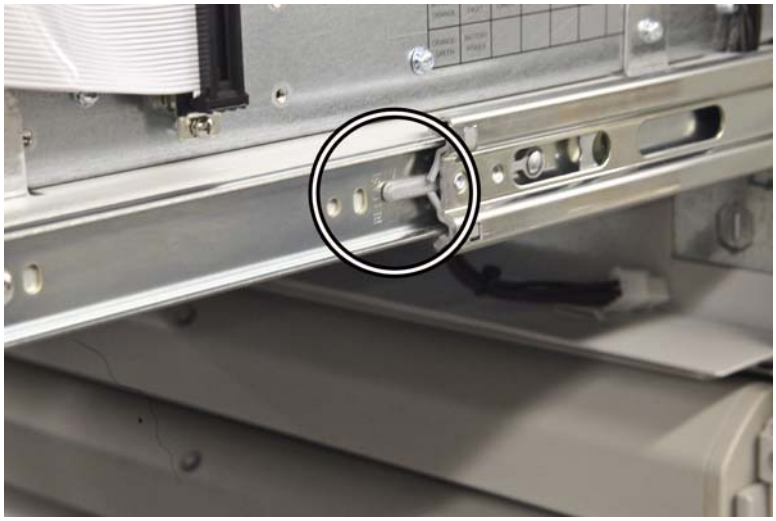

Figure 2-97. Unlocking drawer slides

3. Connect the FlexLock adapter cable to the PC Box and secure it with a P-clip.

Figure 2-98. FlexLock adapter cable connected and secured with P-clip

4. Route the adapter cable through the hole in the frame.

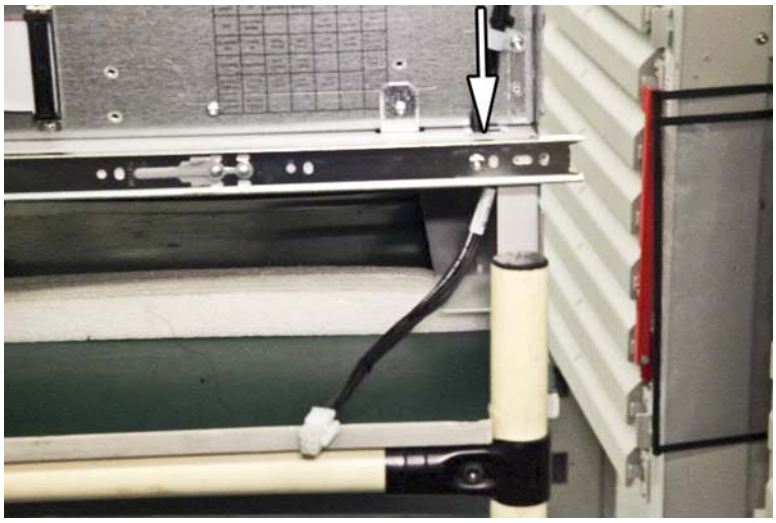

Figure 2-99. Adapter cable routed through frame

5. Pass the Power/Com. cable through the cutout in the rear panel of the PC Box.

Figure 2-100. Attaching Power/Com. cable and adapter cable

Note: For security-integrity reasons, the Power/Com. cable must pass through the plane of the locked area and be connected inside the area covered by the lockable cover. Do not pass the adapter cable through the plane of the locked area and have the connection outside of the locked area.

6. Connect the Power/Com. cable to the adapter cable.
7. Bundle the adapter cable and secure it with cable ties.
8. Re-lock the drawer tabs and ensure that the drawer can open and close without interference.
9. Slide the PC Box back into the cabinet.

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10. Snap on the black grommet over the Power/Com. cable, then squeeze it with pliers to secure it in the cutout. This completes the installation.

Figure 2-101. Pulling the FlexLock cable through the rear panel opening and securing with a grommet

Cabling for the Anesthesia Workstation (AWS) G4

Cabling for the AWS G4 varies according to the configuration of the cabinet and customer-specific requirements for the most advantageous cabling.

Accessing the E-box

There are three possible cabling exits.

Accessing the electronics sled, and closure of the sled, are identical across all variations. Cable exits are detailed between these sections.

1. Remove the work-surface from the AWS G4.
   a. Move the monitor out of the way.
   b. Use the cam lock key #2378 to unlock the work-surface.
   c. Remove the two front, side bolts.

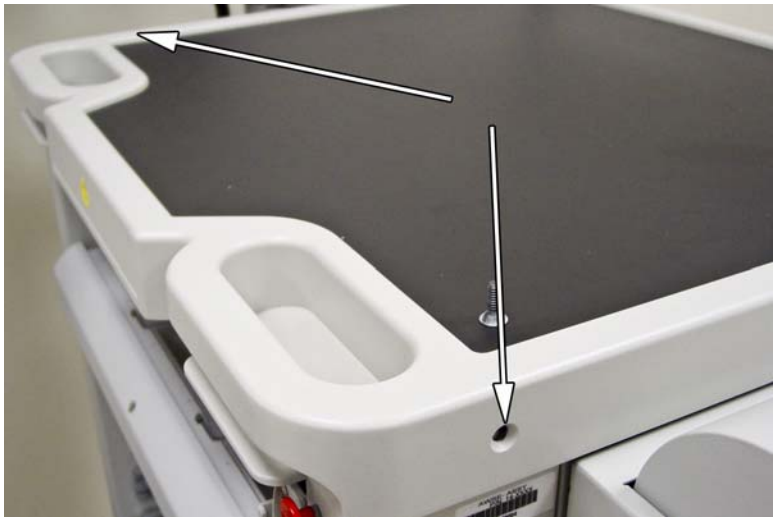

Figure 2-102. AWS G4 work-surface with one of two bolts removed

   d. Slide the work-surface forward, then lift it up and away. Set it aside.

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2. Remove the cover from the E-box.
   a. Use cam lock key #2378 to unlock the E-box cover on the left (monitor) side of the chassis.

Figure 2-103. Unlocking the E-box cover

   b. Squeeze handle on printer door to open, and remove.

Figure 2-104. Squeeze handle to open printer door

c. Rotate the lever on the back wall of the printer compartment to release the cover.

Figure 2-105. Rotated lever

d. Tilt back the cover and pull it off.

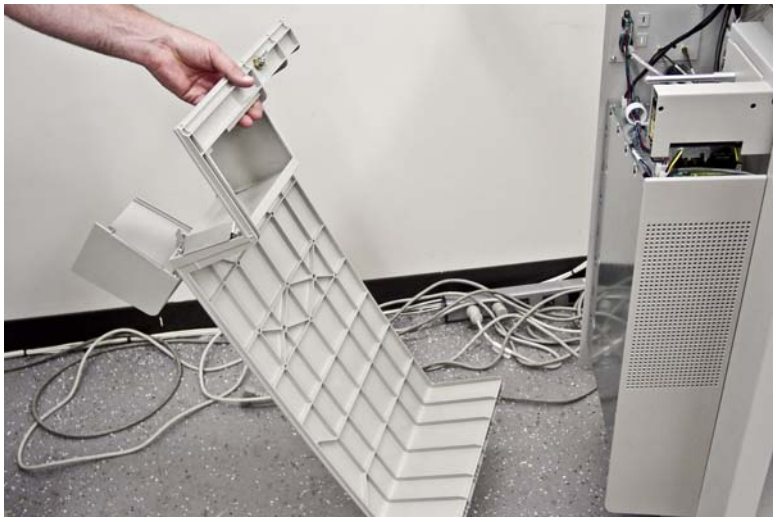

Figure 2-106. Removing E-box cover

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3. Trim the plastic edge-guard, fit into the E-box slot in the chassis top to protect the cables. Pass the FlexLock adapter cable through this slot so the end connector can be attached to the E-box (see next illustration).

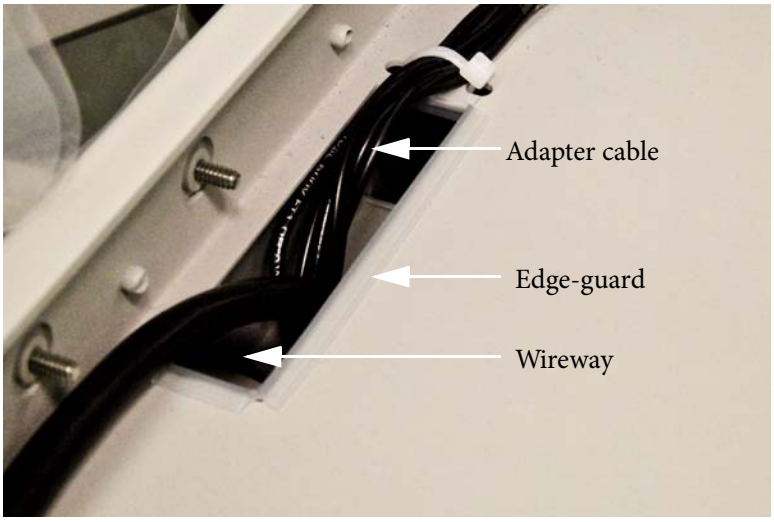

Figure 2-107. E-box slot lined to protect cable; adapter cable passing through to E-box

4. Connect the FlexLock adapter cable to the connector on the E-box.

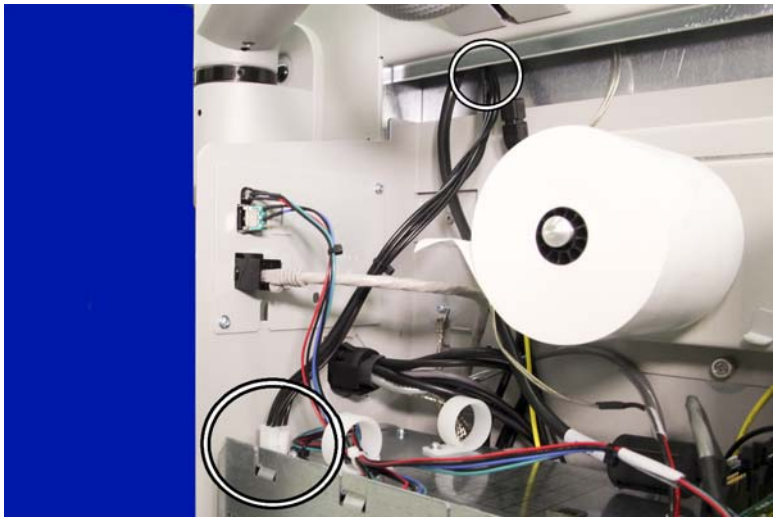

Figure 2-108. FlexLock adapter cable connected to E-box, and passing into top of AWS

Note: For security-integrity reasons, the Power/Com. cable must pass through the plane of the locked area and be connected inside the area covered by the lockable cover. Do not pass the adapter cable through the plane of the locked area and have the connection outside of the locked area.

Alternate cable exit right-side, upper

1. Feed the FlexLock cable through the slot in the back right of the AWS.

Figure 2-109. FlexLock cable routed behind right side of AWS G4

2. Route the FlexLock Power/Com. cable and adapter cable across the top of the chassis and into the slot for the E-box. Bundle excess cable lengths and secure the cables to the cover with cable ties, using the anchors in the chassis.

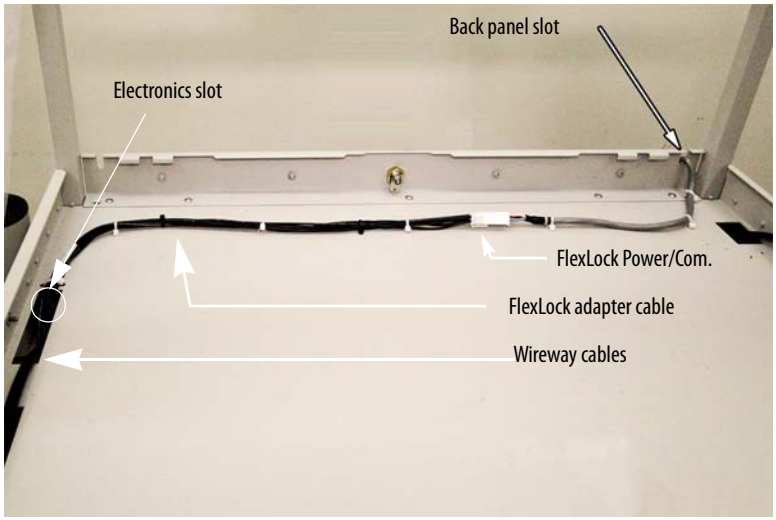

Figure 2-110. FlexLock cable running across top of AWS G4 chassis

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Alternate cable exit, left-rear, upper

1. Feed the FlexLock cable through the slot in the back left of the AWS.

Figure 2-111. Left FlexLock cable exit is close to the monitor arm attachment

2. Secure the cable with a zip-tie, feed the connector into the locked space above the E-box.

Figure 2-112. Showing FlexLock cable exiting via slot on left, and connector inside wireway

Alternate cable exit right-side, lower

This exit is not recommended. The exit hole used in this procedure hole may not exist in early models, and is covered by sheet-metal if the auxiliary shelf is not fitted, and may be covered by an ERB fitted in the lower position.

However, it is a valid exit if a customer has an especially unique configuration that requires a low, right-side exit of the FlexLock cable from the G4 anesthesia workstation.

1. If present, the FlexLock cable can be routed up through the right-rear sheet-metal via the optional hole punched into the front of the right-rear tower.

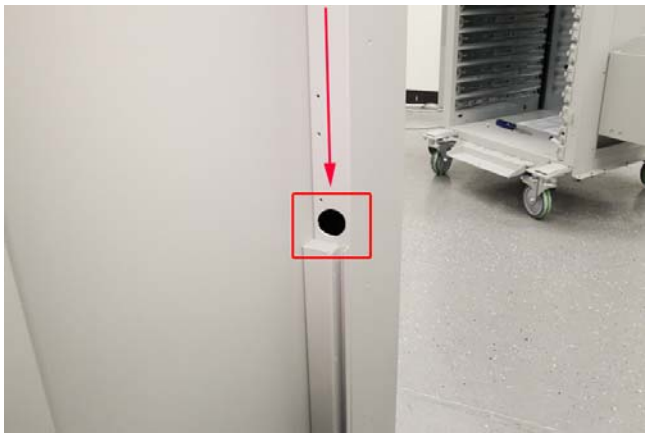

Figure 2-113. Hole in AWS G4 frame for routing the FlexLock or ERB Power/Com. cable

2. Thread the FlexLock Power/Com. cable up through the round hole in the top of the chassis. Install a rubber grommet to prevent cable chafing.

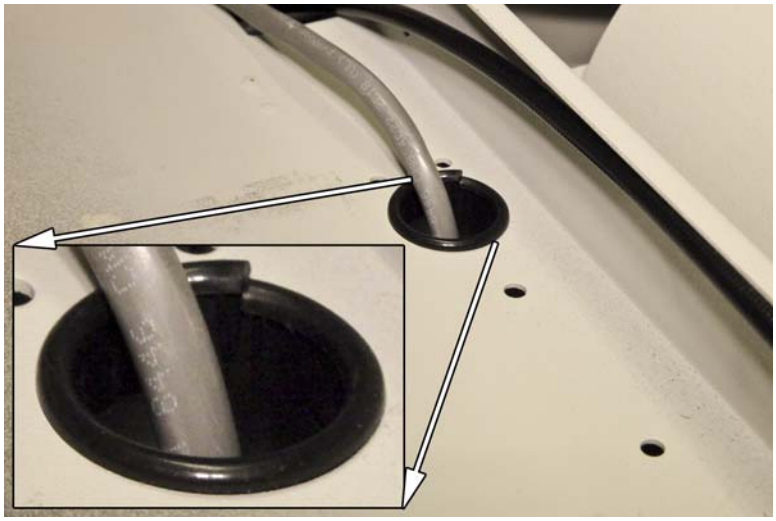

Figure 2-114. Inset shows detail of grommet install

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3. Route the FlexLock Power/Com. cable and adapter cable across the top of the chassis and into the slot for the E-box. Bundle excess cable lengths and secure the cables to the cover with cable ties, using the anchors in the chassis.

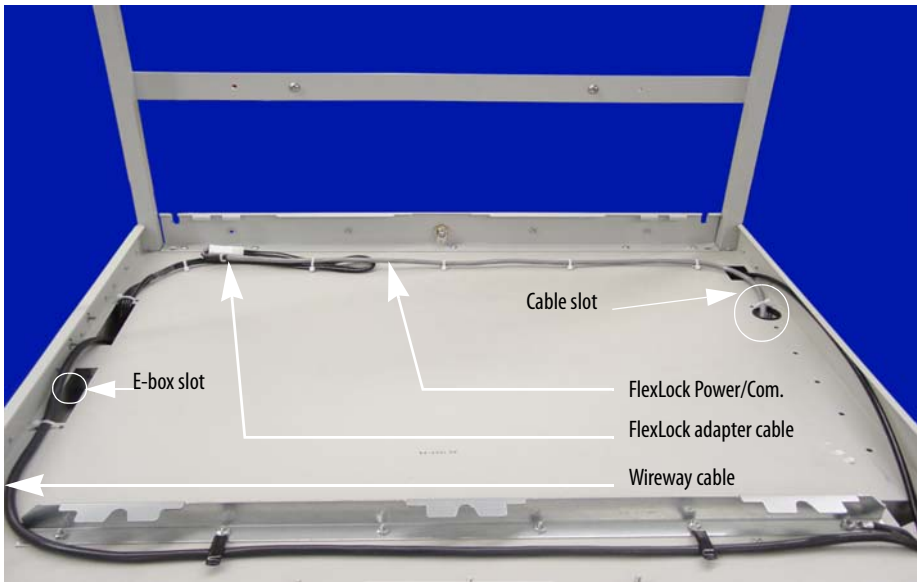

Figure 2-115. FlexLock cable routed into E-box slot

Closing the AWS G4 after connecting the FlexLock cable

1. Close and lock the side cover.
   a. Insert the bottom edge of the cover into the slot below the E-box.

Figure 2-116. Reinstalling the E-box cover

   b. Tilt the cover up and into place.

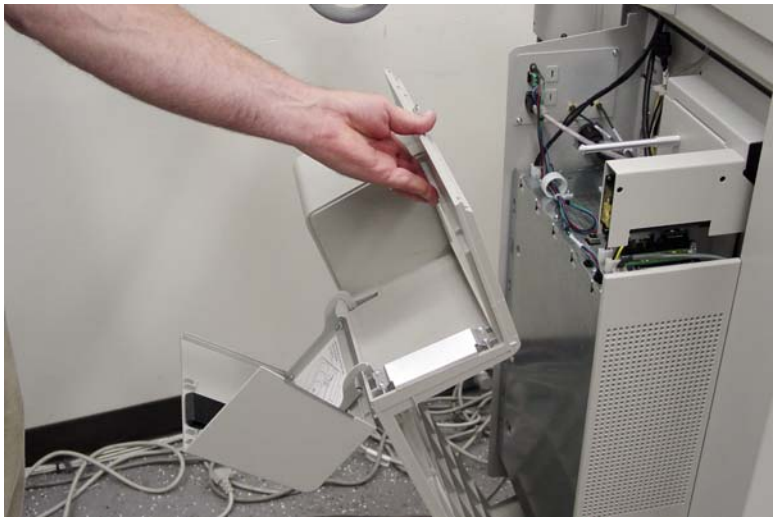

Figure 2-117. Tilting cover back into position

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c. Rotate the lever back into the locked position.

Figure 2-118. Showing the E-box cover about to be latched

d. Close the printer cover.
e. Use cam lock key #2378 to lock the E-box cover.

Figure 2-119. Re-locking the E-box cover

f. Put the work-surface on and slide it closed.
g. Screw the work-surface into place.
h. Lock the work-surface.

External Return Bin

If connecting an External Return Bin (ERB) and a FlexLock at the same time, install the ERB first. Refer to [Section 20] *External Return Bin, Installation and Servicing Manual*.

Note: The FlexLock can be installed without removing the ERB from the frame. The pictures in this section show the ERB detached for clarity purposes.

1. Remove the internal I/O cover plate on the cable side of the ERB.
   a. Remove the 4-40 flathead fastener below the ERB on the cable side with a T-8 Torx driver.

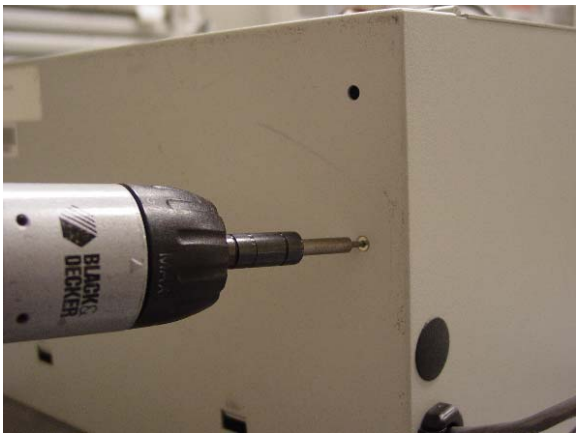

Figure 2-120. Removing the fastener

   b. Open the access door using key #2204 to unlock the access door and key #2202 to override the solenoid.

Figure 2-121. Opening the access door

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c. Slide out the I/O cover plate on the cable side.

Figure 2-122. Sliding out the I/O cover plate

Note: The figures in this section are with the ERB removed from the frame for clarity.

2. Remove the black plug cover on the side adjacent to the cable assembly.

Figure 2-123. Removing the plug

3. Insert the FlexLock molex cable into the cutout.

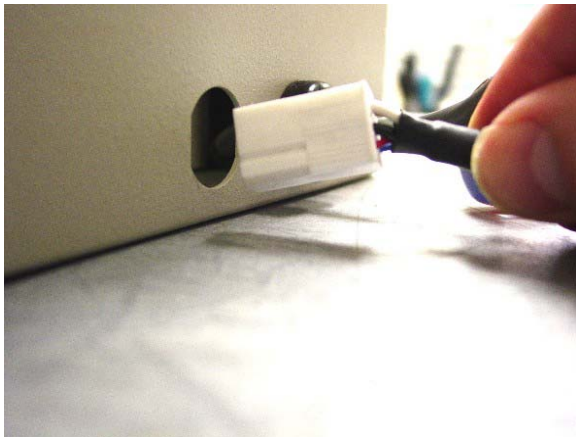

Figure 2-124. Inserting the FlexLock cable

4. Pullout the ERB connector from behind the PCB/solenoid metal plate.

Figure 2-125. Accessing the ERB connector

5. Connect both 6 pin molex cables together inside the ERB.

Figure 2-126. Connecting the ERB and FlexLock cables

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6. Insert a black strain relief to cover the cutout and secure the cable.

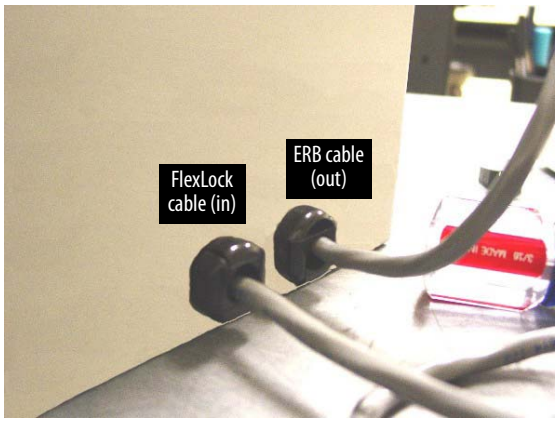

Figure 2-127. Securing the cable with a strain relief

7. Slide in the I/O cover over the cables and cable openings, into the slot in the back wall. Do not pinch any wires.

Figure 2-128. Replacing the I/O cover plate

8. Secure the I/O cover plate with the 4-40 flathead fasteners on the bottom of the ERB on the cable side.

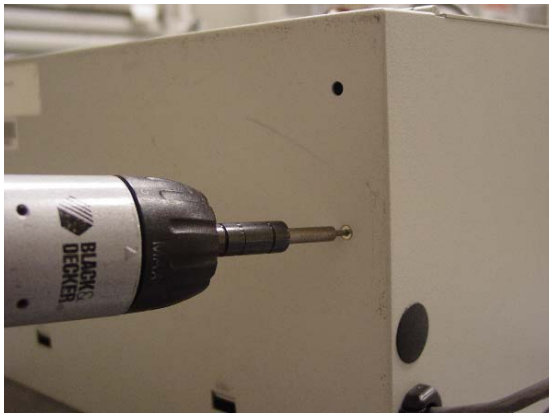

Figure 2-129. Securing the I/O cover plate fastener

9. Open the return door to remove the PCB/solenoid metal mount.
   a. Push the pawl of the solenoid to the left.

Figure 2-130. Accessing the pawl

   b. Lift the top handle to open the return door.

Figure 2-131. Opening the return door

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10. Remove the PCB/solenoid metal plate by loosening the two nuts on either side of the plate, using a 5/16” nut driver.

Figure 2-132. Nut locations

Note: Do not completely remove the nuts, one full turn should be enough.

Figure 2-133. Loosening the metal plate nuts

11. Maneuver the metal plate around the sheet metal tabs and nuts. Remove the lower rim first.

Figure 2-134. Removing the metal plate

12. Set the S1 slide switch to Not Terminated (not labeled on the board) because the ERB will be in the middle of the daisy chain configuration. The S2 slide switch should already be set to ERB.

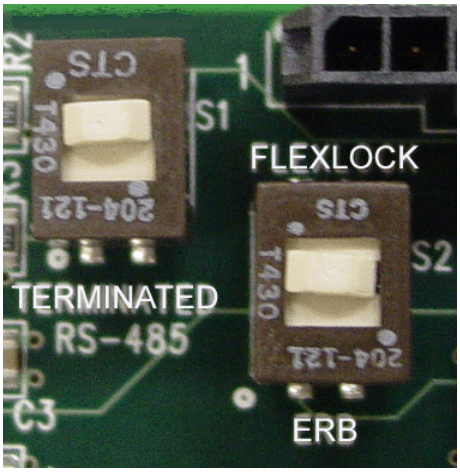

Figure 2-135. Setting the switches

13. Replace the PCB/solenoid metal plate, then tighten the two nuts on either side of the plate, using a 5/16” nut driver.
14. Close the return door.
15. Close and lock the access door with the cam keys.
16. Proceed to “Software Implementation” on page 3-1 for software configuration instructions for FlexLock and TempCheck if installed.

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FlexLock to FlexLock Chain

1. Install the second Flexlock to a refrigerator or cabinet with the same procedures as the first.
2. Remove the Omnicell FlexLock cover plate of the 1st FlexLock using both keys.

Figure 2-136. Moving the key cover plate

3. Remove the 6-32 BH Torx screw.

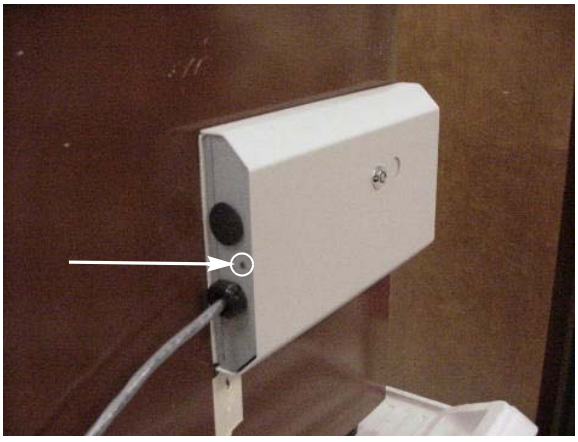

Figure 2-137. Removing the housing cover screw

4. Open the refrigerator door, then remove the cover.

Figure 2-138. Removing the housing cover

5. Remove the black Heyco plug from the back of FlexLock #1 (this is adjacent to the black strain relief located on the power/comm cable). There are small plastic snaps on the inside of plug that can be pressed with a flat blade screwdriver to release the plug.

Figure 2-139. Removing the plug

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6. Route the power/comm cable from FlexLock #2 into the available cutout on FlexLock #1.

Note: Cable limitation from Host to last FlexLock is 125 ft.

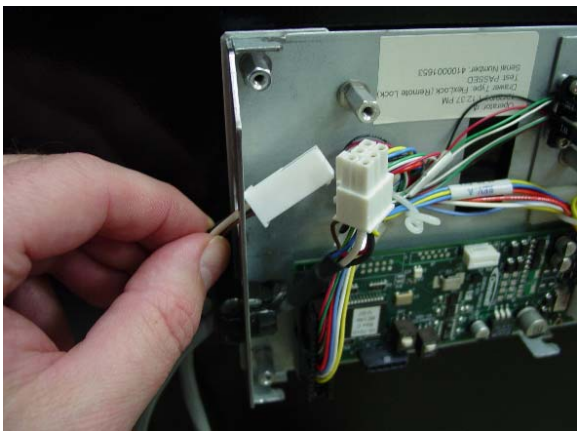

Figure 2-140. Routing the Flexlock cable

7. Connect the 6 plug connector into the available white 6 conductor plug.

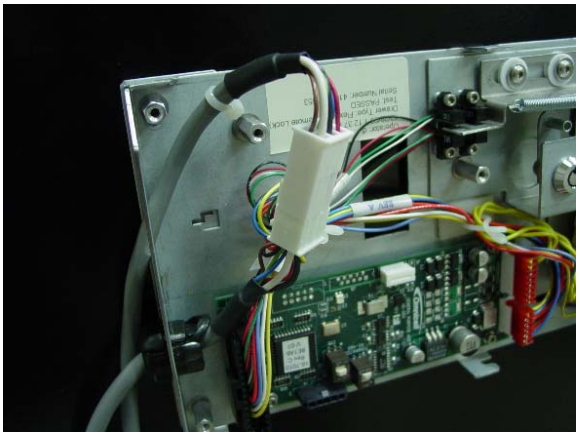

Figure 2-141. Connecting the FlexLock cable

8. Install the large black strain relief over the FlexLock #2 power/comm cable.

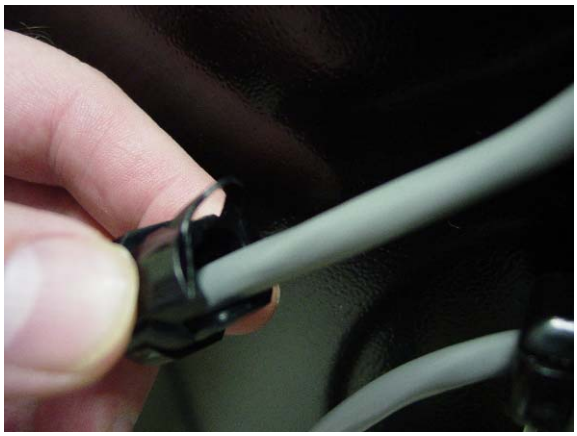

Figure 2-142. Installing the strain relief

9. Snap the strain relief into the cutout.

Figure 2-143. Snapping the strain relief into the cutout

10. Tie up any loose internal wires with the existing Kurly lock or cable tie.
11. Set the S1 switch to Not Terminated (not marked on PCBA).

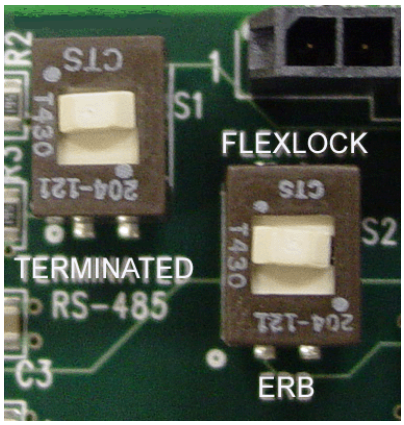

Figure 2-144. Checking the PCBA Switch Settings.

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12. Replace the cover on the first FlexLock and secure it with the 6-32 BH Torx screw.
13. Proceed to "Software Implementation" on page 3-1 for software configuration instructions for FlexLock and TempCheck if installed.

Retrofit TempCheck

This section provides instructions if retrofitting an existing FlexLock with a TempCheck probe. The retrofit kit #20-6037 is needed for this procedure.

1. Remove the screw that secures the FlexLock housing cover.
2. Remove the housing cover.
3. Remove the four standoffs that secure the FlexLock inner housing.
4. Follow steps in "TempCheck Installation" on page 2-19.
5. Follow the steps in "Inner Housing and Cover" on page 2-21 using the new inner housing from the retrofit kit.
6. Proceed to "Software Implementation" on page 3-1 for software configuration instructions for TempCheck.

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Software Implementation

This chapter provides general instructions for implementing the FlexLock and its optional feature, TempCheck. For additional information or assistance, contact Omnicell Technical Support.

FlexLock

Implementation Overview

Software implementation for FlexLock includes the following:

- Bin Addressing
- Item Assignment
- Reports
- FlexLock Programming
- Cabinet Configuration

OmniCenter

Bin Addressing

FlexLock bin addresses are handled essentially the same way that the bin addresses in a Sure-Med universal compartment are currently treated. The drawer type is FlexLock. The location displayed is entered by the user at the OmniSupplier. If a user-entered description is not provided, the field displays Flexlock #1, Flexlock #2, and so on. Like universal compartment bins, FlexLocks do not support multiple bins, so items that are assigned to a FlexLock cannot be assigned elsewhere, and vice versa. Only pharmacy items are supported.

The new Drawer Type information is as follows:

Field	Value
draw type	46
draw_desc	FlexLock
start_bin	0
stop_bin	118
bin_number	nBin + 1
subdrawers	.F.
multi_bin	.F.
matrix	.F.

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Item Assignment

Items can be assigned to existing Remote Lock bins via the OmniCenter **Database** tab. The Bin Assignment feature is accessed by selecting the **Bins** radio button on the **Item Record**.

Reports

The *Pharmacy Drawer Configuration* report and the **Bin Assignment** look-up list are used to support FlexLock.

Color Touch

FlexLock Programming

1. Login at the Color Touch screen of the cabinet where the FlexLock is cabled.
2. Go to the configuration
   a. Press **Admin**.
   b. Press **Omni Config**.
   c. Press **Program FlexLock**.
3. Press the button on the FlexLock. A confirmation window is displayed when the FlexLock programming is complete.

Figure 3-1. Pressing the FlexLock button for programming

Cabinet Configuration

There are 5 software configurations for FlexLock. Four are maintained by the system. One can be changed by the user. It is found in the **Omni Config**, **Misc** menu.

Misc_Options

Config Name:	FlexLock_Timeout_Value
Menu Name:	**FlexLock Timeout Value**
Description:	Limit FlexLock access
Values:	0-999 Seconds; 0 seconds = disabled
Default:	60 Seconds
Implementation:	Set to the desired time out setting in seconds.

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Note: If the OmniSupplier CountBack Timeout configuration is set to 0 (disabled), the FlexLock Timeout will also be disabled—regardless of its setting.

TempCheck

Implementation Overview

Implementation for FlexLock TempCheck includes the following:

- Setting the Temperature Monitoring Parameters at the OmniCenter
- Configuring the cabinet software via Color Touch
  - FLEXLOCK#_MONITORING
  - FLEXLOCK#_MONITORFREQ
  - FLEXLOCK#_LOWTEMPLIMIT
  - FLEXLOCK#_HIGHTEMPLIMIT

OmniCenter

This section provides instructions for setting up the temperature monitoring parameters.

Temperature Monitoring Parameters

1. Login to OmniCenter as Omnicell Tech.
2. Select the **Administrative** tab.
3. Select **Setup Administrative Type**.
4. Double press **Temperature Monitoring Setup**.

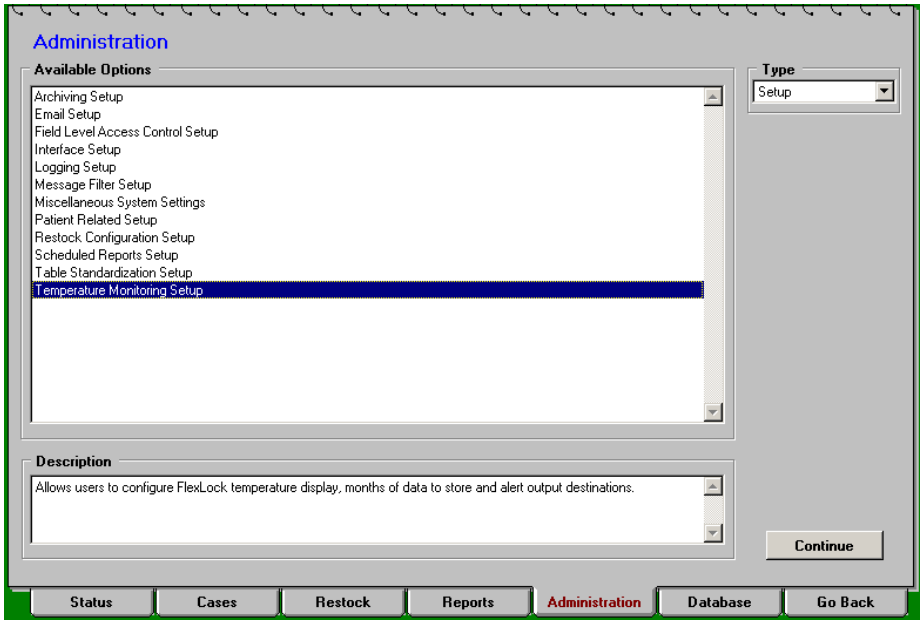

Figure 3-2. Administration > Setup window

5. Select temperature display type (Celsius; Fahrenheit).
6. Select number of months to store temperature readings. The default is 12.
7. Specify notice trigger (only when status changes; all alerts).
8. Check box for notification when status returns to normal if desired.
9. Press **Add** to specify destinations for alert.
10. Select output type on the Add window.
11. Specify search type, enter a string, then press **Search**. A matching list is displayed below.
12. Highlight the desired destinations, then press **Add**.

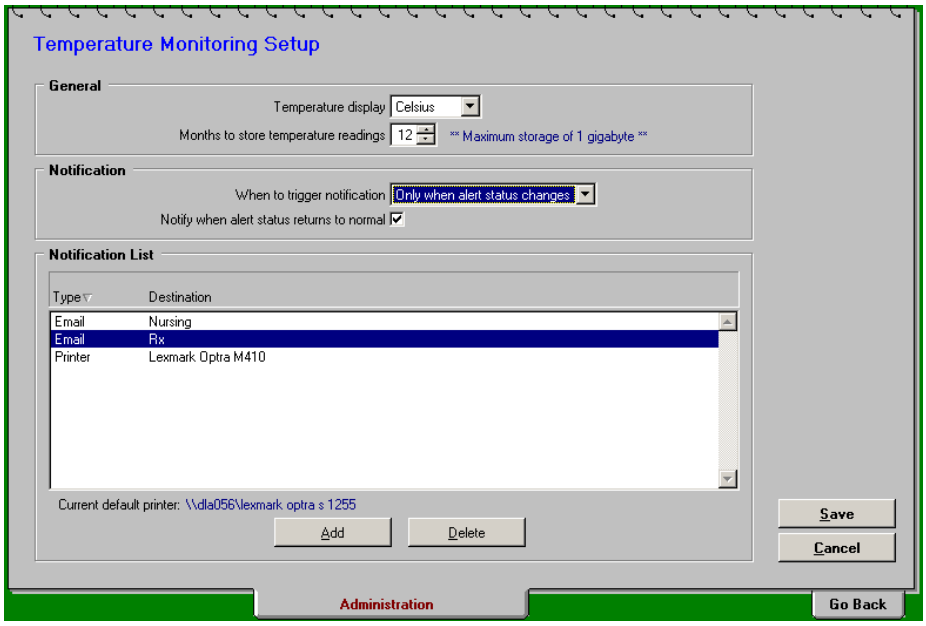

Figure 3-3. Temperature Monitoring Setup window

13. Repeat Steps 11-12 as needed.
14. Press **Close** when finished adding destinations.
15. Press **Delete** to remove a destination listing if needed.

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Color Touch

There are four software configurations available if one or more FlexLocks with TempCheck are connected to the system. The configurations are found in the Omni Config, FlexLock Temperature Monitoring menu.

Cabinet Software Configuration

FlexTemp

Config Name:	FLEXLOCK#_MONITORING
Menu Name:	**FlexLock # Monitoring**
Description:	Enables temperature monitoring for the TempCheck device
Values:	On; Off
Default:	Off
Implementation:	Set to On to enable temperature monitoring.

Config Name:	FLEXLOCK#_MONITORFREQ
Menu Name:	**FlexLock # Monitoring Frequency**
Description:	Specifies the frequency (in minutes) at which the cabinet will check the temperature.
Values:	1-120 minutes
Default:	30 minutes
Implementation:	Set the desired number of minutes between each temperature check.

Config Name:	FLEXLOCK#_LOWTEMPLIMIT
Menu Name:	**FlexLock # Low Temp Limit**
Description:	Specifies the temperature (°C) below which a low temperature warning will occur.
Values:	-9 to 129° C
Default:	2° C
Implementation:	Set the desired low end of the acceptable temperature range. Alerts will be given if the sensor encounters temperatures below this setting.

Config Name:	FLEXLOCK#_HIGHTEMPLIMIT
Menu Name:	**FlexLock # High Temp Limit**
Description:	Specifies the temperature (°C) above which a high temperature warning will occur.
Values:	-8 to 130° C
Default:	8° C
Implementation:	Set the desired high end of the acceptable temperature range. Alerts will be given if the sensor encounters temperatures above this setting.

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Service

Product Overview

The FlexLock can be connected to a cabinet or a workstation. It can also be daisy-chained to an External Return Bin (ERB) or another FlexLock.

The cabinet or workstation acts as a host providing power to the FlexLock directly or indirectly through a daisy-chained ERB or another FlexLock.

The host cabinet or workstation must be powered down to work on the FlexLock as it does not have its own power switch. This is true even if the FlexLock to be serviced is in a daisy-chain and not directly connected to the host cabinet or workstation.

Some services require the disconnection of the FlexLock cables for replacement or to allow the host equipment to be used while service is being completed on the FlexLock.

Service Overview

There are four types of services done on a FlexLock. They are listed below with the related conditions when they are performed.

- Alignment Adjustment

  This service is done when the refrigerator door does not close properly.

- TempCheck Replacement

  Replace the TempCheck probe and flex circuit cable (if present) when:

  - Temperature readings are beyond hardware limit
  - Voltage problems occur and error messages are displayed

- FlexLock Inner Housing Replacement

  This service is done when:

  - Upgrading an older FlexLock for TempCheck installation
  - Hardware failure occurs and error messages are displayed

- Complete FlexLock Replacement

  The whole FlexLock assembly is replaced when:

  - FlexLock has poor adhesion to refrigerator or cabinet

    Poor adhesion can be caused by an unclean or textured refrigerator/cabinet surface. It can also be caused by not waiting long enough for the adhesion to bond before the FlexLock is used.

  - Wrong door latch was used originally

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Tools Required

Tool	Required for
T-10 Torx Driver	All Procedures
FlexLock Cam Lock Keys #2202 and #2232	All procedures
ERB Cam Lock Keys #2202 and #2204	Replacing Inner Housing, FlexLock (if connected to ERB)
ESD Wrist Strap	All procedures
1/4" Hex Driver (with various bit sizes)	Replacing FlexLock
T8 Torx Driver	Replacing FlexLock
5/16 Nut Driver	Replacing FlexLock
Screwdriver	Adjusting alignment
Adhesive Cleaning Tool (safety blade)	Replacing TempCheck, FlexLock

Table 4-1. Tools Required

Kit/Parts Required

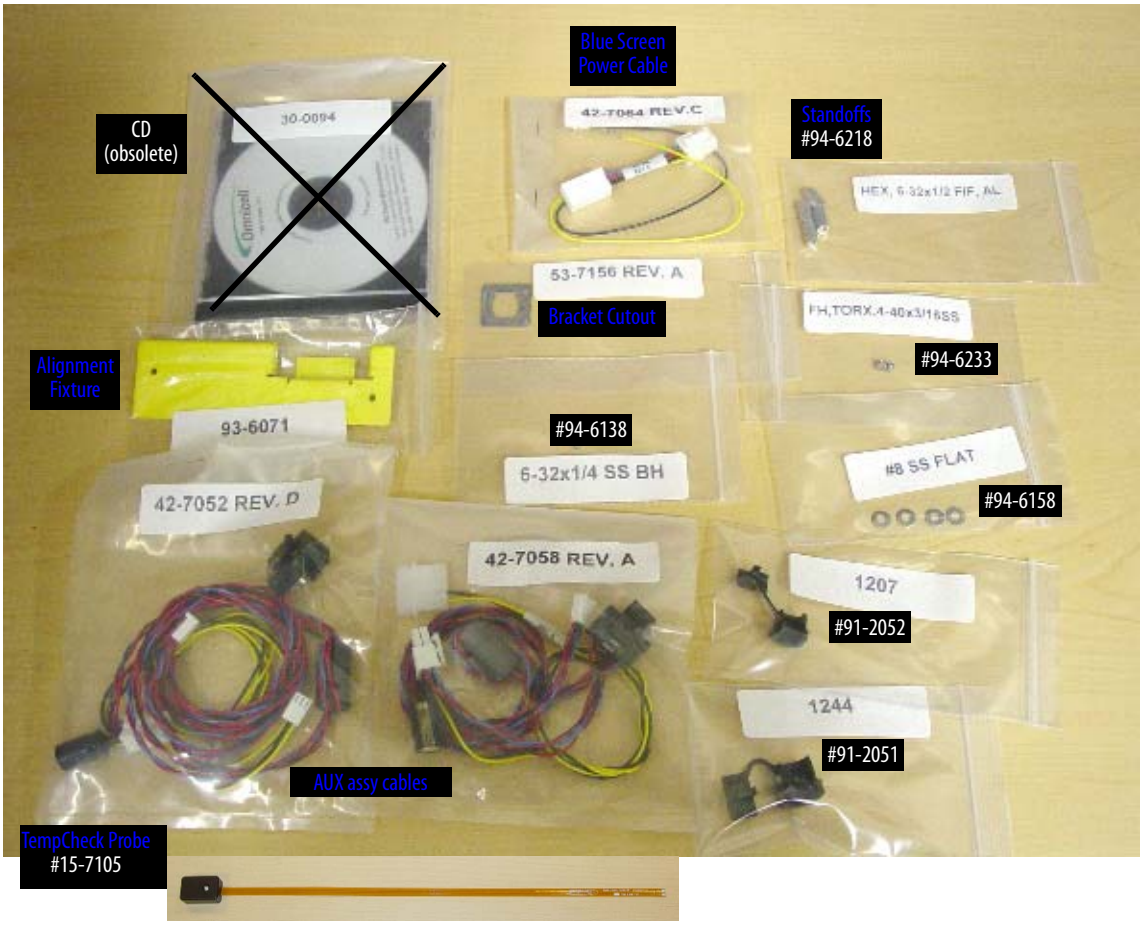

Figure 4-1. FlexLock Installation Kit #20-6023 with TempCheck probe

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Kits/Parts	Used for	Description/Notes
#14-7043	Replacing FlexLock	Contains Door Brackets, Cam Lock Keys with FlexLock unit/cable
#20-6023	Replacing FlexLock	Includes the TempCheck temperature probe, cable for host equipment; See "Appendix A Parts/Kit List" on page A-1 for details.
#20-6037	Replacing TempCheck, Inner Housing	Contains the FlexLock inner housing with the TempCheck compatible PCBA #40-3013 and TempCheck probe; used for upgrading FlexLock for TempCheck

Table 4-2. Kit/Parts Required

General Service Instructions

These instructions are called by the service procedures that follow.

Service Preparation

These steps are done before every service.

1. Contact the pharmacist so that a representative can be present when pharmacy items are accessible during service.
2. Store the contents of the refrigerator elsewhere. The refrigerator door may be left open for a long period of time depending on the type of service to be done. This could harm thermal-sensitive medications.
3. Turn off the power to the FlexLock by performing a graceful shut-down the host cabinet or workstation—even if the FlexLock to be serviced is daisy-chained to another FlexLock or ERB.
4. Wear a properly grounded ESD strap. This will protect sensitive components from electro-static discharge.

FlexLock Manual Override/Cover Plate Removal

These two procedures are usually combined except for alignment adjustment.

FlexLock Manual Override

1. Use cam lock key #2232 to open the FlexLock override cover plate.

Figure 4-2. Unlocking the cover plate

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2. Use cam lock key #2202 to override the locking mechanism so that the refrigerator door can be opened and closed.

Cover Plate Removal

1. Remove the 6-32 BH Torx screw with a T-10 Torx driver.

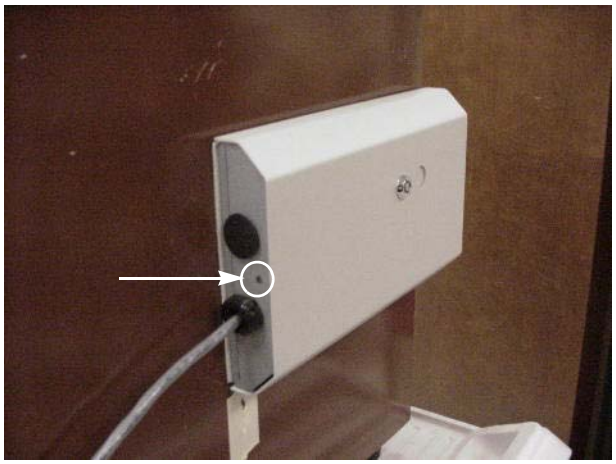

Figure 4-3. Removing the cover plate screw

2. Open the refrigerator door.
3. Slide the cover forward then out.

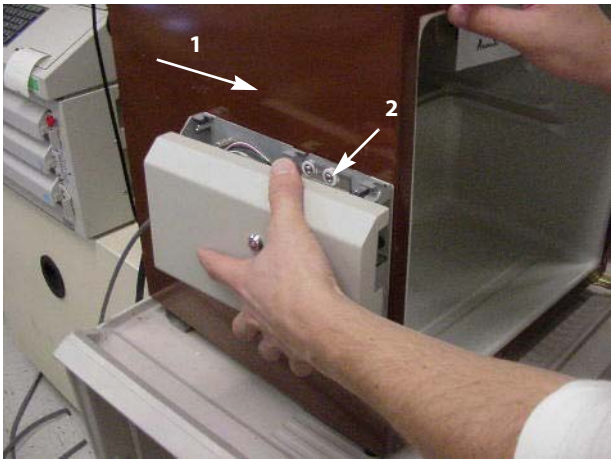

Figure 4-4. Removing the cover plate

Cable Procedures

The cable procedures vary by equipment type:

- Electronic Sled
- PC Box
- ERB (as part of daisy-chain)
- (another) FlexLock - part of daisy-chain

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Caution: The host cabinet/workstation must be powered down and a properly grounded ESD strap must be put on before accessing cables.

Electronic Sled

This section provides instructions for removing/connecting the FlexLock cable to the following cabinet types:

- OmniTT
- AnesthesiaTT
- Anesthesia Workstation
- Half Cell Cabinet
- OmniRX

1. Access the equipment.
   a. Lift up the sled cover.
   b. Prop open using a switch panel housing.

Figure 4-5. Propping the sled cover

Note: The Anesthesia Workstation sled cover can be removed completely.

2. Disconnect the FlexLock cable.
   a. Disconnect the FlexLock cable from the power/communication cable inside the sled. Refer to Figure 4-10.
   b. Remove the strain relief and the retaining bracket. Refer to Figure 4-11 (strain relief) and Figure 4-9 (retaining bracket).
   c. Thread the cable out of the AUX opening.
3. Remove the power-communication cable.
   a. Disconnect the cable from the board.
      1. Remove the 4-pin (red and blue cables) connector from the AUX J24 (US Logic/ Windows 95) or J10 (ETX/Windows XP) slot on the power-comm board. See Figure 4-7.

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2. Remove the 3-pin (black and yellow cables) connector from the J16 slot labeled MAG on the UPS board. See Figure 4-8.

b. Disconnect the AUX connector.

c. Remove the cable from the sled.

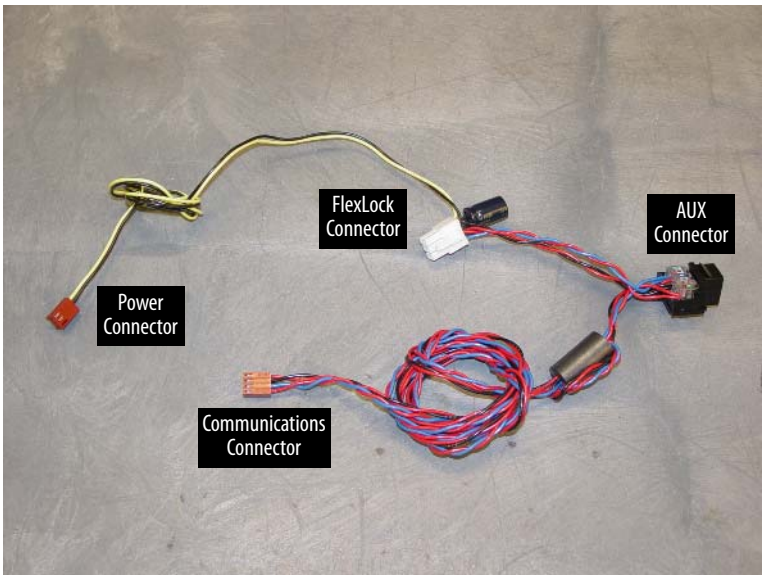

Figure 4-6. #42-7052 AUX Cable Assembly

4. Replace the power-communication cable.

a. Insert the black AUX connector from the Omnicell FlexLock retrofit AUX cable assembly into the one of the AUX openings from the inside the sled.

b. Insert the 4-pin connector (red/blue/black cables) into AUX J24 (US Logic/Windows 95) or J10 (ETX/Windows XP) on the power-comm board.

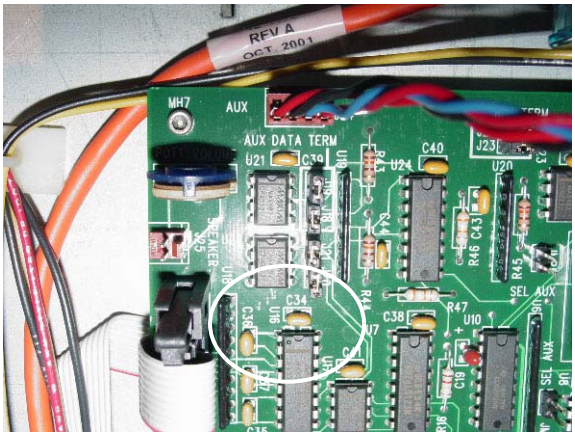

Figure 4-7. Connecting the communications cable

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c. Insert the 3 pin (blue and yellow cables) connector from the retrofit AUX cable assembly into J16 labeled MAG on the UPS board.

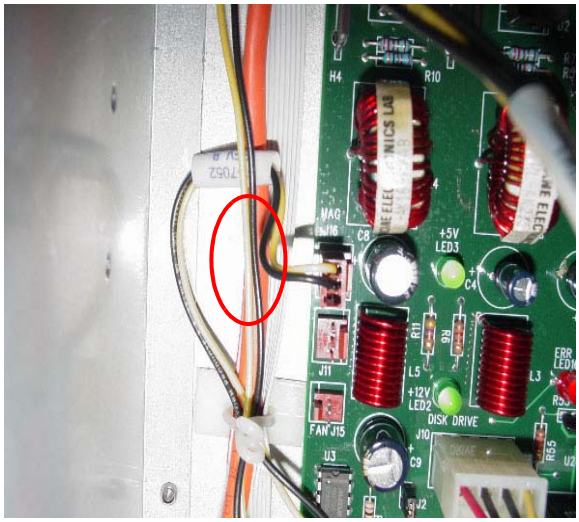

Figure 4-8. Connecting the power cable

5. Connect the FlexLock cable.
   a. Thread the Omnicell FlexLock cable through the AUX opening.
   b. Slip the metal retaining bracket (1" square) over the white connector and position it on the inside rear of the metal rail.

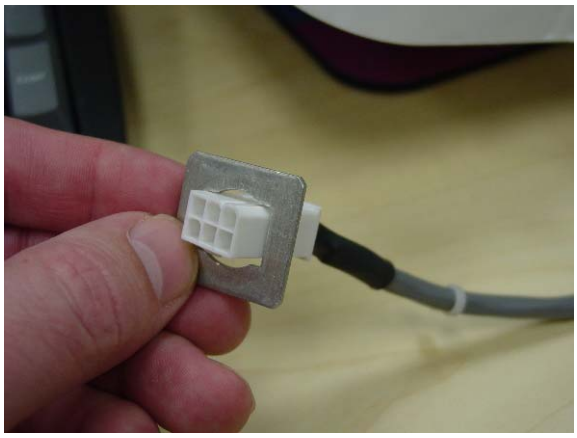

Figure 4-9. Positioning the retaining bracket

c. Connect the FlexLock cable to the power-communication cable.

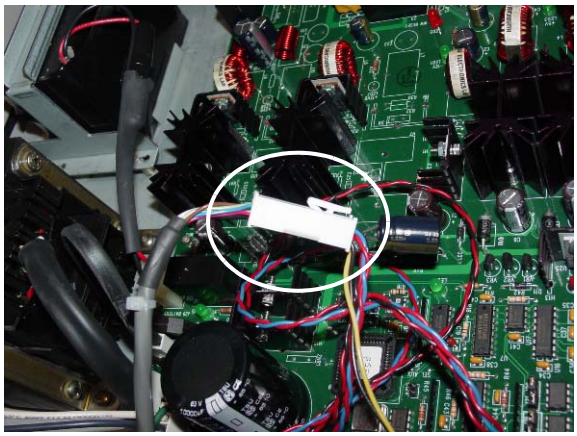

Figure 4-10. Connecting the FlexLock cable

d. Snap on the black strain relief over the outside Omnicell FlexLock Power Comm cable and push it half way through the AUX opening. The metal retainer should snap into the groove of the black strain relief and secure the cable to the inside of the rear panel.

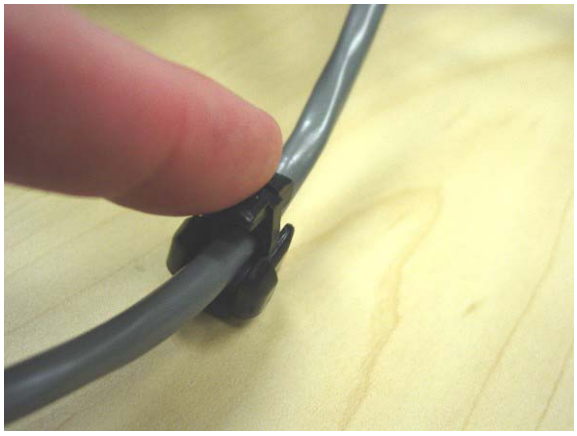

Figure 4-11. Snapping on the strain relief

6. Secure the equipment.
   a. Route cables neatly—using cable ties as needed.
   b. Remove the prop (if one is used), then close/replace the sled cover.

Note: If the FlexLock cable was disconnected so the host equipment can be used during FlexLock service (alignment adjustment or TempCheck replacement), the host cabinet/workstation can now be powered up for use.

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PC Box

1. Access the equipment.

Note: For more details on accessing the PC Box, refer to the *Omnicell Hardware Installation Document, Section 1: PC Box*.

2. Disconnect the FlexLock cable.
   a. Disconnect the FlexLock cable from the power-communication cable.
   b. Remove the bracket and strain relief.
   c. Thread the cable out of the AUX opening.
3. Remove the power-communication cable.
   a. Disconnect the power-communication cable.
      1. Remove the 4-pin header (blue and red cables) connector from J24 slot, labeled AUX COM on the UPS board.
      2. Remove the power (black and yellow cables) connector from the power supply connector.
   b. Remove the black AUX connector.
   c. Remove the power-communication cable from the PC Box.

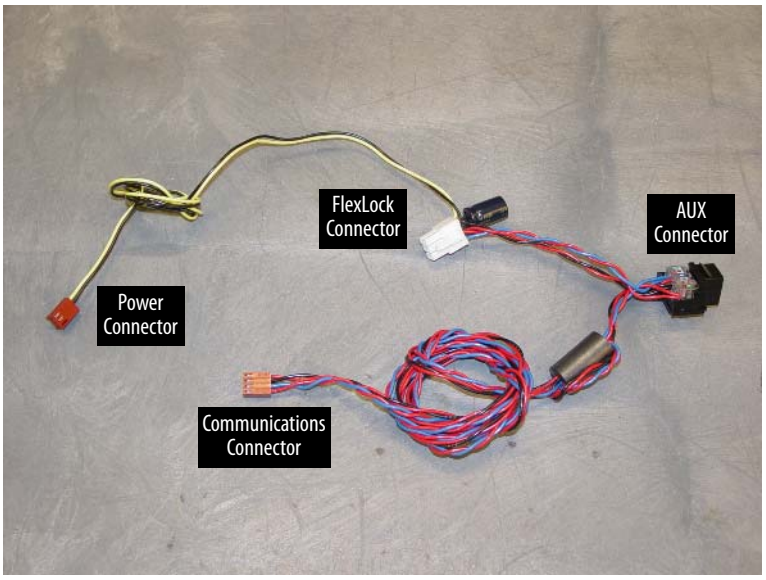

Figure 4-12. AUX Cable Assembly #42-7058

4. Replace the power-communication cable.
   a. Insert the black AUX connector from the Omnicell FlexLock retrofit AUX cable assembly into the first opening.

b. Insert the 4-pin header connector (red/blue/black cables) on the retrofit AUX cable assembly into J24, labeled AUX COM on the UPS board.

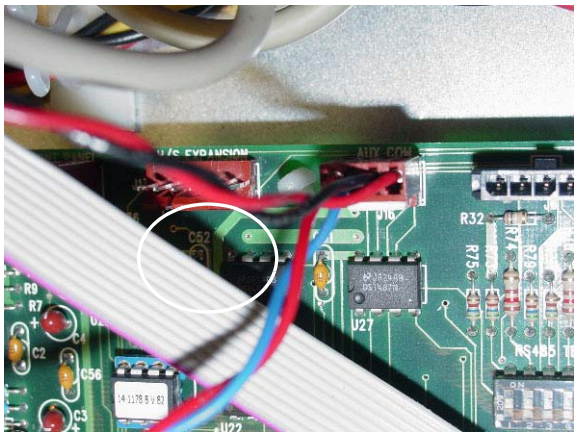

Figure 4-13. Connecting the communication cable

c. Insert the power (black and yellow cables) connector from the retrofit AUX cable assembly into power supply connector.

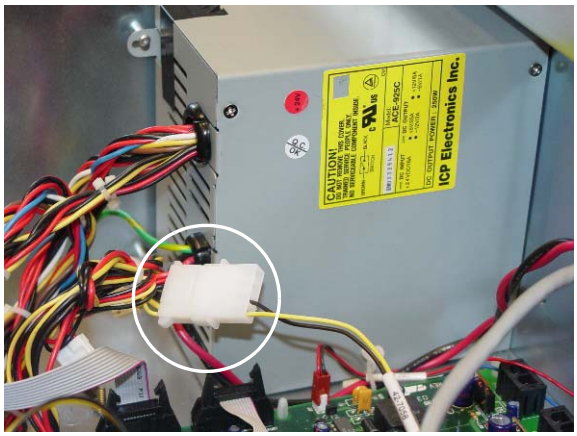

Figure 4-14. Connecting the power cable

5. Connect the FlexLock cable.

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a. Thread the Omnicell FlexLock cable through the AUX opening and connect it to the power-communication cable.

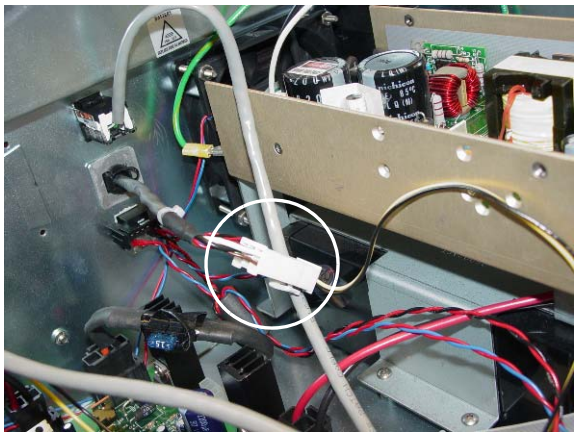

Figure 4-15. Connecting the FlexLock cable

b. Slip the metal retaining bracket (1" square) over the white connector and position it on the inside rear of the metal rail.

c. Snap on the black strain relief over the outside Omnicell FlexLock Power Comm cable and push it half way through the 2nd AUX opening. The metal retainer should snap into the groove of the black strain relief and secure the cable to the inside of the rear panel.

Figure 4-16. Inside view of bracket and strain relief

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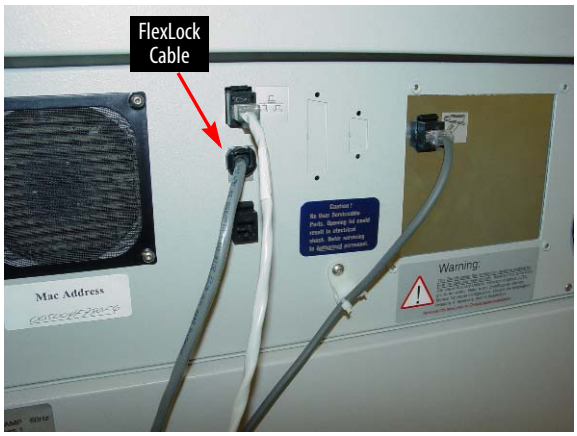

Figure 4-17. Rear View of OmniSupplier PC Box

6. Secure the equipment.
   a. Route the cables neatly—using cable ties as needed.
   b. Close and secure the PC Box drawer.

Note: For more details on securing the PC Box, refer to the *Omnicell Hardware Installation Document, Section 1: PC Box*.

If the FlexLock cable was disconnected so the host equipment can be used during FlexLock service (alignment adjustment or TempCheck replacement), the host cabinet/workstation can now be powered up for use.

ERB

1. Access the equipment.

   a. Remove the internal I/O cover plate on the cable side of the ERB.
      1. Remove the 4-40 flathead fastener below the ERB on the cable side with a T-8 Torx driver.

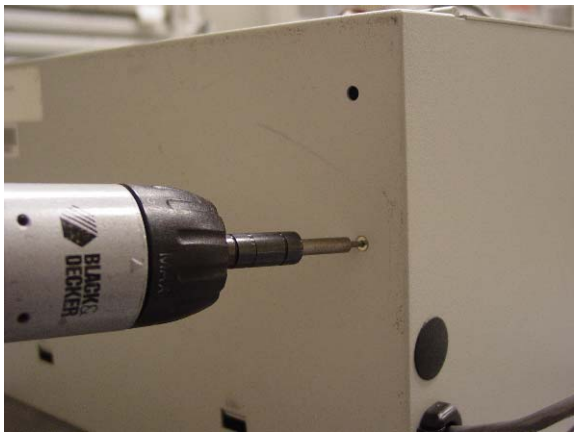

Figure 4-18. Removing the fastener.

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b. Open the access door using key #2204 to unlock the access door and key #2202 to override the solenoid.

Figure 4-19. Opening the access door

c. Slide out the I/O cover plate on the cable side.

Figure 4-20. Sliding out the I/O cover plate

2. Disconnect the FlexLock cable.
   a. Disconnect the FlexLock cable from the 6-pin connector. See Figure 4-23.
   b. Remove the strain relief. See Figure 4-24.
   c. Thread the cable out. See Figure 4-21 and Figure 4-22.
   d. If disconnecting cables to allow the ERB to be used while servicing the other FlexLock, set the S1 switch to Terminated. Refer to Step 3g on page 4-15.

Note: The power-communication cable is not used when the FlexLock is daisy-chained to an ERB.

3. Connect the FlexLock cable.
   a. Insert the FlexLock molex cable into the cutout.

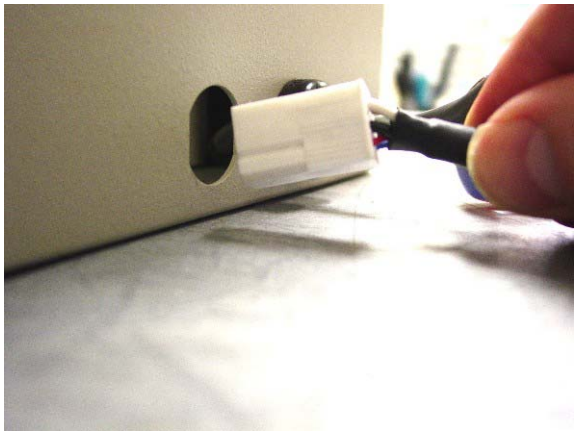

Figure 4-21. Inserting the FlexLock cable

   b. Pullout the ERB connector from behind the PCB/solenoid metal plate.

Figure 4-22. Accessing the ERB connector

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c. Connect both 6 pin molex cables together inside the ERB.

Figure 4-23. Connecting the ERB and FlexLock cables

d. Insert a black strain relief to cover the cutout and secure the cable.

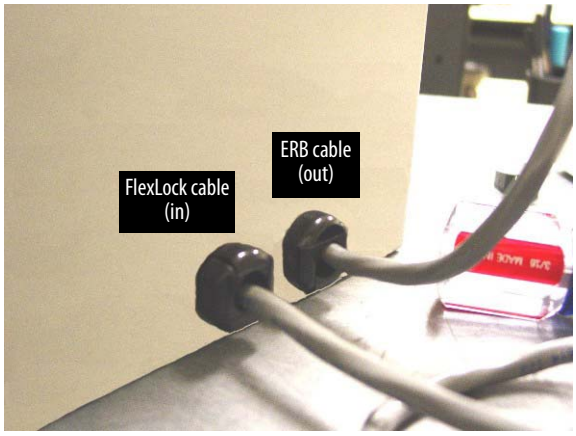

Figure 4-24. Securing the cable with a strain relief

e. Slide in the I/O cover over the cables and cable openings, into the slot in the back wall. Do not pinch any wires. See Figure 4-20.

f. Secure the I/O cover plate with the 4-40 flathead fasteners on the bottom of the ERB on the cable side. See Figure 4-18.

g. Access the PCB switches.

   1. Open the return door to remove the PCB/solenoid metal mount.

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2. Push the pawl of the solenoid to the left.

Figure 4-25. Accessing the pawl

3. Lift the top handle to open the return door.

Figure 4-26. Opening the return door

4. Remove the PCB/solenoid metal plate by loosening the two nuts on either side of the plate, using a 5/16” nut driver.

Figure 4-27. Nut locations

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Note: Do not completely remove the nuts, one full turn should be enough.

Figure 4-28. Loosening the metal plate nuts

5. Maneuver the metal plate around the sheet metal tabs and nuts. Remove the lower rim first.

Figure 4-29. Removing the metal plate

6. Set the S1 slide switch to Not Terminated (not labeled on the board) because the ERB will be in the middle of the daisy chain configuration. The S2 slide switch should already be set to ERB.

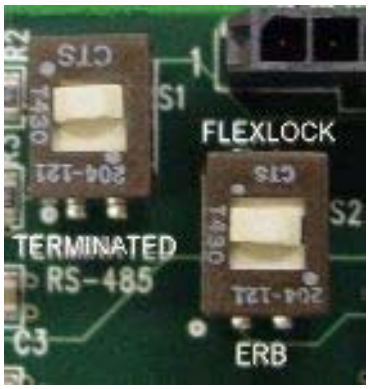

Figure 4-30. Setting the switches

4. Secure the equipment.
   a. Replace the PCB/solenoid metal plate, then tighten the two nuts on either side of the plate, using a 5/16” nut driver.
   b. Close the return door.
   c. Close and lock the access door with the cam keys.

Note: If the FlexLock cable was disconnected so the host equipment can be used during FlexLock service (alignment adjustment or TempCheck replacement), the host cabinet/workstation can now be powered up for use.

FlexLock

1. Access the equipment.
   a. Perform the steps under “FlexLock Manual Override/Cover Plate Removal” on page 4-3.
2. Disconnect the FlexLock cable.
   a. Disconnect the cable from the 6-plug connector. See Figure 4-32.
   b. Remove the strain relief. See Figure 4-33 and Figure 4-34.
   c. Thread the cable out of the FlexLock. See Figure 4-31.
   d. If disconnecting cables to allow the FlexLock to be used while servicing the other FlexLock, set the S1 switch to Terminated. See Figure 4-35.

Note: The power-communication cable is not used when the FlexLock is daisy-chained to another FlexLock.

3. Connect the FlexLock cable.

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a. Route the cable from FlexLock #2 into the available cutout on FlexLock #1.

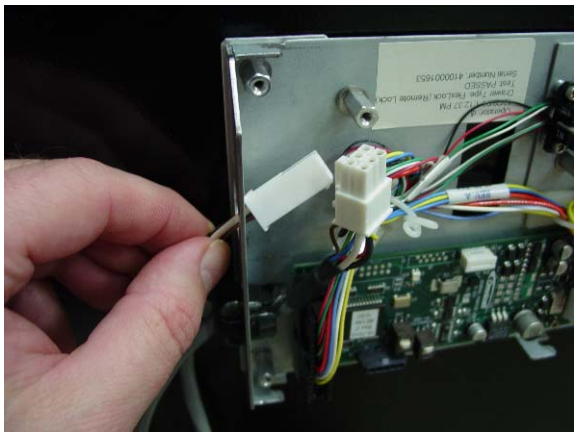

Figure 4-31. Routing the FlexLock cable

b. Connect the 6 plug connector into the available white 6 conductor plug.

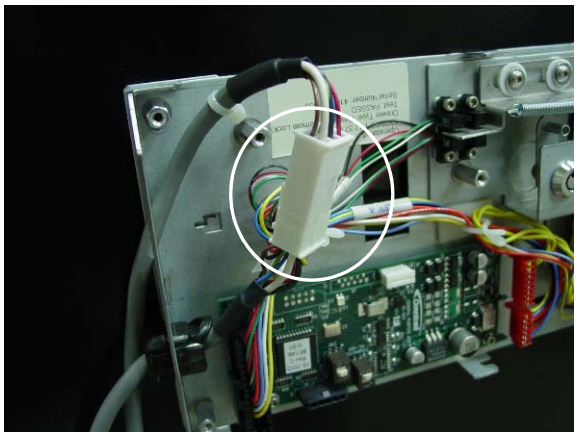

Figure 4-32. Connecting the FlexLock cable

c. Install the large black strain relief over the FlexLock #2 power/comm cable.

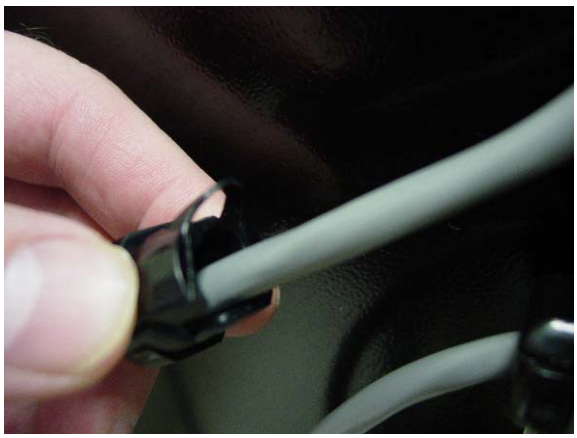

Figure 4-33. Installing the strain relief

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d. Snap the strain relief into the cutout.

Figure 4-34. Snapping the strain relief into the cutout

e. Route cables neatly with the existing cable tie.

f. Set the S1 switch to Not Terminated (not marked on PCBA).

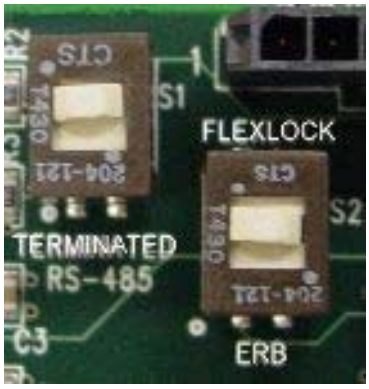

Figure 4-35. Checking the PCBA Switch Settings.

4. Secure the equipment.
   a. Replace the housing cover by sliding it in, then back.
   b. Secure the housing cover with a 6-32 BH Torx screw using a T-10 Torx driver.
   c. Secure the refrigerator by engaging the locking system with cam key #2202.
   d. Close the override lock cover with cam lock key #2232.

Note: If the FlexLock cable was disconnected so the host equipment can be used during FlexLock service (alignment adjustment or TempCheck replacement), the host cabinet/workstation can now be powered up for use.

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Alignment Adjustment

1. Perform "Service Preparation" on page 4-3.

Note: If this service requires an extended period of time, the FlexLock can be disconnected from the host equipment (cabinet, work station, ERB). This will allow the use of the host equipment while service on the FlexLock is being completed.

2. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
   a. Access the equipment.
   b. Disconnect the FlexLock cable.
   c. Secure the equipment.
3. Perform the steps under "FlexLock Manual Override/Cover Plate Removal" on page 4-3.

Lock Assembly Check

Caution: The refrigerator door must close properly to ensure security of medications and proper storage temperature.

1. Open and close the refrigerator door.
2. Refer to Figure 4-36 and verify the following:
   - The lock assembly should be vertically centered so that the gap at **point 1** is the same as **point 2**. If not, vertical alignment is needed.
   - The lock tab should move in/out of the locking slot with no interference at **point 3**. If not, depth adjustment is needed.

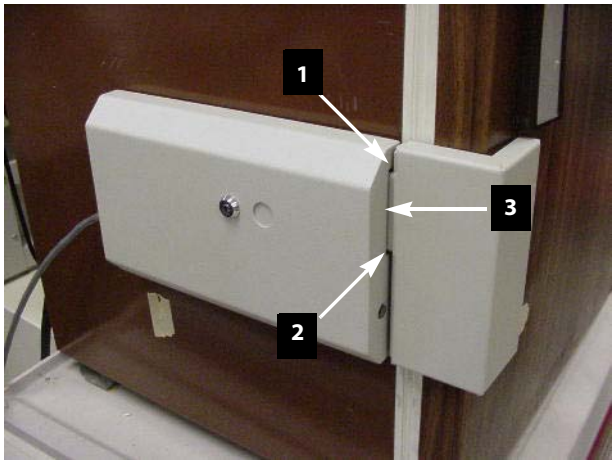

Figure 4-36. Checking the locking assembly

3. Perform the steps under "Cover Plate Removal" on page 4-4.

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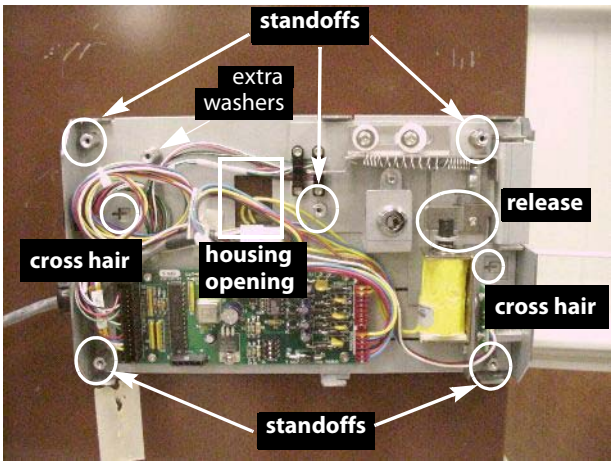

Figure 4-37. Inner housing layout

Depth Adjustment

This procedure moves the inner housing toward or away from the mounting bracket with the use of washers.

1. Pull the ZIF connector collar up to release the TempCheck flex circuit if present.
2. Remove the four corner standoffs and washers.

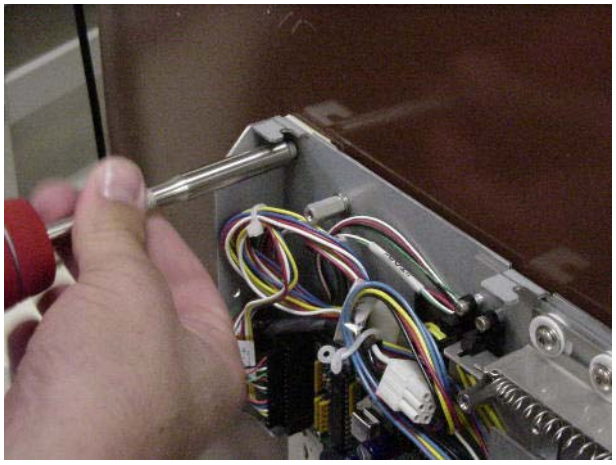

Figure 4-38. Removing a standoff

3. Remove the inner housing.
4. Thread the flex circuit out of the housing opening if present.

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5. Remove the storage standoff (2nd left on inner housing) holding the extra washers (if any).

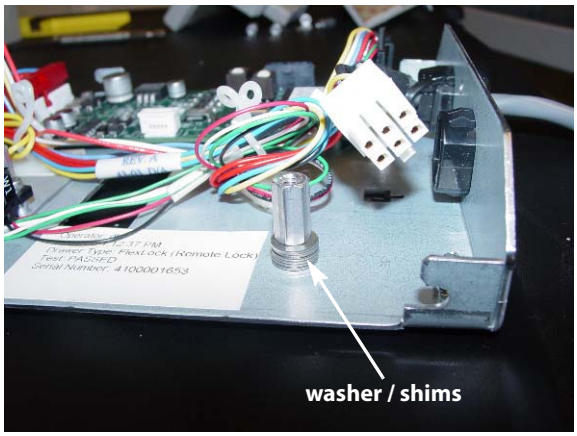

Figure 4-39. Washer/Shims under standoff

6. To add space: Remove the washers and use them as shims by placing them on the four corner threaded studs.
7. To reduce space: Remove washers from the four corner threaded studs and place them on the storage thread stud.
8. Secure the extra washers with the storage standoff.
9. Thread the TempCheck flex circuit back through the housing opening (if present) then, place the inner housing on the threaded studs now with shims.

Figure 4-40. Mounting the inner housing

10. Place a washer on the threaded studs then tighten the four standoffs.
11. Loop the TempCheck flex circuit around to plug it into the ZIF connector if present. The exposed metal contact portion of the flex circuit end should be facing down. Press the ZIF connector collar down into the locked position.

Lock Pawl Adjustments

1. Loosening the middle and two right standoffs.
2. Adjust pawl horizontally as needed.
3. Re-tighten the standoffs.

Vertical Alignment

1. Loosen the standoffs as needed.
2. Use a screwdriver with the two cross hairs. The screwdriver slot adjustment sets the position up and down from neutral (cross hairs in cross formation).

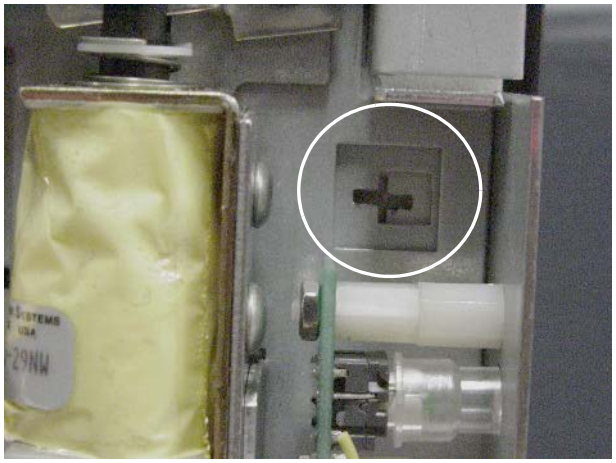

Figure 4-41. Aligning the inner housing with the Cross Hair.

3. Tighten the standoffs.

Final Steps

1. Replace the housing cover by sliding it in, then back.
2. Secure the housing cover with a 6-32 BH Torx screw using a T-10 Torx driver.
3. If the FlexLock cable was disconnected:
   a. Perform a graceful shut-down of the host cabinet/workstation.
   b. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
      1. Access the equipment.
      2. Connect the FlexLock cable.
      3. Secure the equipment.
4. Remove the ESD strap.
5. Place refrigerator items back inside, then close the refrigerator door.
6. Secure the refrigerator by engaging the locking system with cam key #2202.
7. Close the override lock cover with cam lock key #2232.
8. Power up the host cabinet/workstation.

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Replace TempCheck

TempCheck is an optional feature for the FlexLock. Refer to the *FlexLock Installation and Configuration Guide* for more details.

1. 1. Perform "Service Preparation" on page 4-3.

Note: If this service requires an extended period of time, the FlexLock can be disconnected from the host equipment (cabinet, work station, ERB). This will allow the use of the host equipment while service on the FlexLock is being completed.

2. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
   a. Access the equipment.
   b. Disconnect the FlexLock cable.
   c. Secure the equipment.
3. Perform the steps under "FlexLock Manual Override/Cover Plate Removal" on page 4-3.

Inner Housing Removal

4. Pull the ZIF connector collar up to release the TempCheck flex circuit.
5. Remove the four corner standoffs and washers.

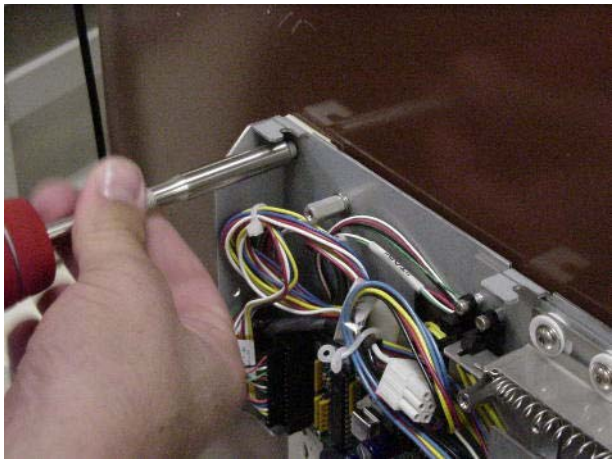

Figure 4-42. Removing a standoff

6. Remove the inner housing while threading the flex circuit out of the housing opening.

TempCheck Removal

7. Peel off the flex circuit and temp probe. A safety blade may be used to clear off adhesive.

Important: he old adhesive must be removed for a solid bond of the new flex circuit and temp probe.

TempCheck Installation

8. Clean the intended path of the TempCheck probe flex circuit inside the refrigerator with a isopropyl alcohol/water mix. The path should be level with the mounting bracket's crossbar and not in line with a refrigerator shelf.
9. Align the contacts end of the flex circuit to the edge of the FlexLock mounting bracket and temporarily attach it with adhesive tape. Avoid taping over the circuit contacts at the end.

Figure 4-43. Aligning the end of the Flex Circuit with bracket.

10. Pull the flex circuit tight inside the refrigerator door.
11. Install the temperature sensor end inside the refrigerator. Remove the self-adhesive cover and pull the flex circuit tight while sticking it in place.

Figure 4-44. Installing the sensor inside the refrigerator.

12. Remove the tape from the contacts end of the flex circuit.
13. Peel off the self-adhesive cover from the flex circuit.
14. Pull the flex circuit tight while carefully adhering it from inside the refrigerator to the mid point of the mounting bracket.

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15. Bend the exposed end of the flex circuit up (or down) at ninety degrees.

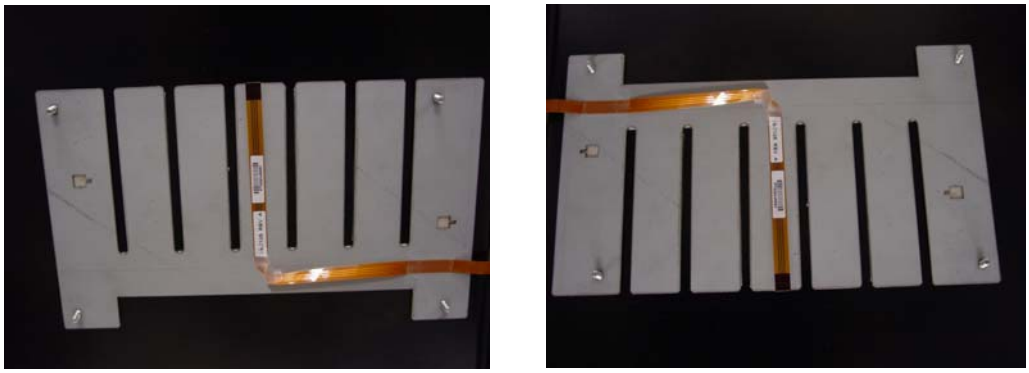

Figure 4-45. Bending the Flex Circuit end up (refrigerator opens from left).....or down (refrigerator opens from right).

Inner Housing and Cover Installation

16. Thread the TempCheck flex circuit through the inner housing opening, then place the inner housing over the mounting bracket's threaded studs.

Figure 4-46. Placing the Inner Housing in position.

17. Place a washer on the threaded studs, then tighten the four standoffs.

Note: The PCB switches are upside down when the inner housing is installed.

18. Set the PCBA S1 slide switch to either:
    - Terminated—if the FlexLock is at the end of the AUX daisy chain or the only AUX device
    - Not Terminated (not marked on PCBA)—if in the middle of a daisy chain with an External Return Bin (ERB) or another FlexLock cabled to it.

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19. Set the PCBA S2 slide switch to FlexLock.

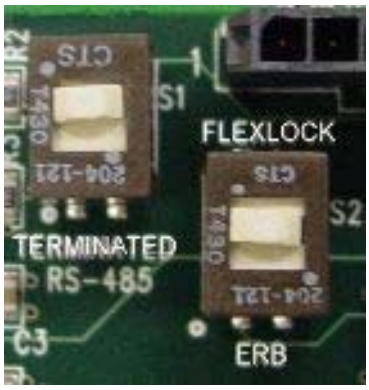

Figure 4-47. Setting the PCBA Switches

20. Pull out the Zero Insertion Force (ZIF) connector collar so that it is in the up (unlocked) position.
21. Loop the flex circuit around to plug it into the ZIF connector. The exposed metal contact portion of the flex circuit end should be facing down.
22. Evenly press the ZIF connector collar down into the locked position.

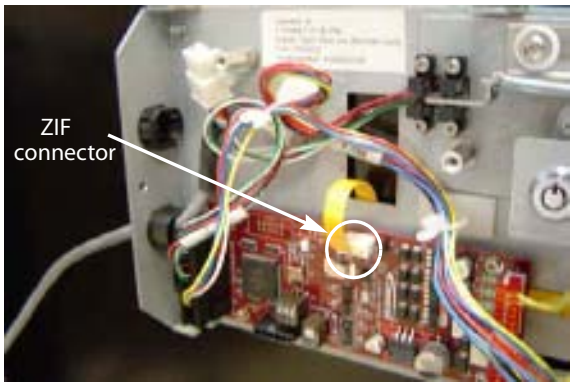

Figure 4-48. Connecting the Flex Circuit in the Housing Assembly

Final Steps

23. Replace the housing cover by sliding it in, then back.
24. Secure the housing cover with a 6-32 BH Torx screw using a T-10 Torx driver.
25. If the FlexLock cable was disconnected:
    a. Perform a graceful shut-down of the host cabinet/workstation.
    b. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
        1. Access the equipment.
        2. Connect the FlexLock cable.
        3. Secure the equipment.

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26. Remove the ESD strap.
27. Place refrigerator items back inside, then close the refrigerator door.
28. Secure the refrigerator by engaging the locking system with cam key #2202.
29. Close the override lock cover with cam lock key #2232.
30. Power up the host cabinet/workstation.

FlexLock Inner Housing Replacement

Note: Replacing individual parts in the inner housing is not supported.

1. Perform "Service Preparation" on page 4-3.
2. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
   a. Access the equipment (e.g. electronics sled, ERB, etc.)
   b. Disconnect the FlexLock cable.
   c. For electronic sled/PC box, remove the power-communication cable.
3. Perform the steps under "FlexLock Manual Override/Cover Plate Removal" on page 4-3.

Inner Housing Removal

1. Pull the ZIF connector collar up to release the TempCheck flex circuit if present.
2. Remove the four corner standoffs and washers.

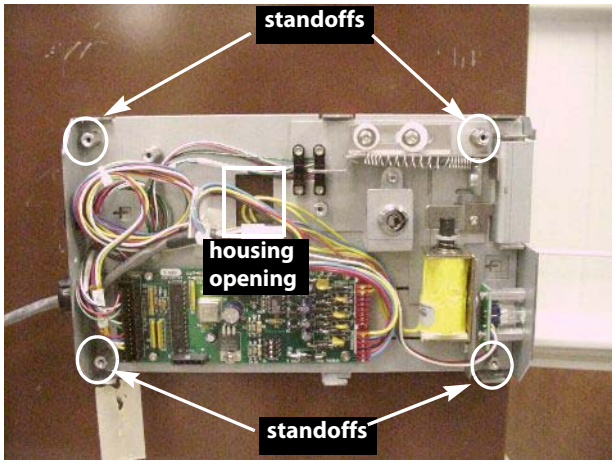

Figure 4-49. Inner housing layout

3. Remove the inner housing.

Inner Housing Installation

1. Thread the TempCheck flex circuit back through the housing opening (if present) then, place the new inner housing on the threaded studs.

Figure 4-50. Mounting the inner housing

2. Place a washer on the threaded studs then tighten the four standoffs.
3. Loop the TempCheck flex circuit around to plug it into the ZIF connector if present. The exposed metal contact portion of the flex circuit end should be facing down. Press the ZIF connector collar down into the locked position.
4. Replace the housing cover by sliding it in, then back.
5. Test the locking mechanism with the refrigerator door. If adjustments are needed, refer to "Alignment Adjustment" on page 4-21.
6. Secure the housing cover with a 6-32 BH Torx screw using a T-10 Torx driver.

Cable Replacement

1. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
   a. Access the equipment (e.g. electronics sled, ERB, etc.)
   b. For electronic sled/PC box, replace the power-communication cable.
   c. Connect the FlexLock cable.

Final Steps

2. Remove the ESD strap.
3. Place refrigerator items back inside, then close the refrigerator door.
4. Secure the refrigerator by engaging the locking system with cam key #2202.
5. Close the override lock cover with cam lock key #2232.
6. Power up the host cabinet/workstation.
7. Program the FlexLock.
   a. Login at the Color Touch screen of the cabinet where the FlexLock is cabled.

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b. Go to the configuration window.
   1. Press **Admin**.
   2. Press **Omni Config**.
   3. Press **Program FlexLock**.

c. Press the button on the FlexLock. A confirmation window is displayed when the FlexLock programming is complete.

Figure 4-51. Pressing the FlexLock button for programming

FlexLock Assembly Replacement

1. Perform "Service Preparation" on page 4-3.
2. Perform the steps under "FlexLock Manual Override/Cover Plate Removal" on page 4-3.
3. Remove the inner housing. Refer to "Inner Housing Removal" on page 4-29.
4. Perform a graceful shut-down of the host cabinet/workstation.
5. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
   a. Access the equipment (e.g. electronics sled, ERB, etc.)
   b. Disconnect the FlexLock cable
   c. For electronic sled/PC box, remove the power-communication cable.

Mounting Bracket Removal

1. Strip the flex circuit off the mounting bracket if present.

Note: The flex circuit may be damaged and will probably lose its adhesive during this process. It is recommended that TempCheck probe be replaced after the FlexLock assembly has been replaced. The temperature probe comes as part of installation kit #20-6023. Refer to "Replace TempCheck" on page 4-25.

2. Remove the mounting bracket. Fishing wire and a safety blade may be required to remove the adhesive.

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FlexLock Installation

Refrigerator/Cabinet Preparation

3. Use the template pattern ("Template" on page C-1) to see if the cabinet or refrigerator is compatible with the FlexLock. There are two sides of the template—one for a square (90° angle) door, the other for a rounded door (used by such manufacturers as Sanyo or Kenmore).
   a. Align the template to the door and side surface.
   b. Make sure there are no gaps.

Figure 4-52. Using the template pattern

Important: Do not attempt to install the FlexLock if the refrigerator door does not fit the template pattern.

4. Use an isopropyl alcohol/water mix to clean the refrigerator or cabinet surface where the FlexLock is to be placed (side where door opens—not the hinged side).

FlexLock Assembly

5. Choose a location on the refrigerator or cabinet—allowing room for the FlexLock and accessing the refrigerator/cabinet handle.

Note: If installing the TempCheck probe, make sure the cross bar of the mounting bracket is not in line with a shelf inside the refrigerator. The TempCheck flex circuit should be able run along the inside wall of the refrigerator.

6. Select the correct door adapter for the door type.

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Door Bracket Assembly

7. Remove the three T-8 screws which hold the cover plate to the door plate using a T-8 Torx Driver and retain them for later use.

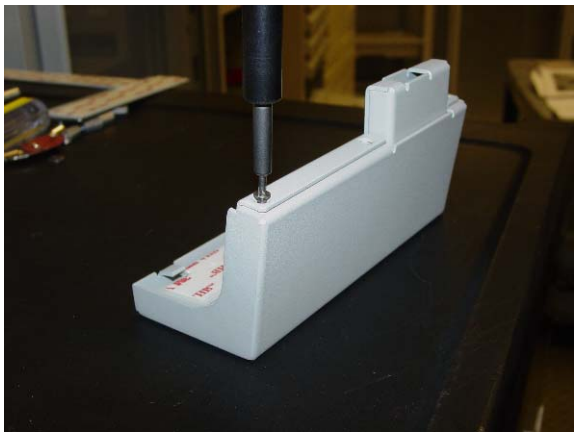

Figure 4-53. Removing the cover plate

8. Remove the cover plate.
9. Remove the four 5/16 nuts which hold the door plate to the plate adapter using a 5/16 nut driver.

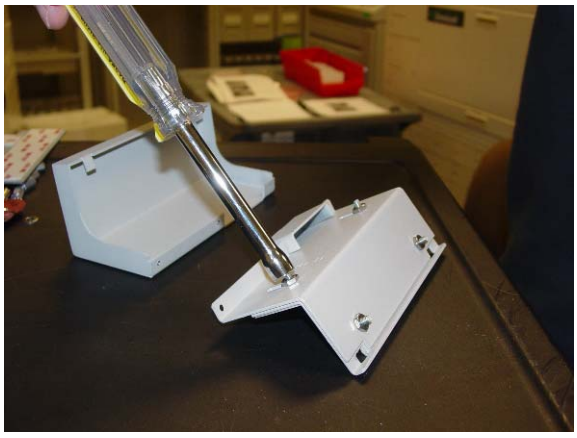

Figure 4-54. Removing the door plate from the plate adaptor

10. Remove the door plate.

Door Adapter Fit Test

11. Test fit the door adapter against the door corner. Bend the adapter slightly to match the angle of the refrigerator if needed. A close fit is required for strength.

Figure 4-55. Testing the door adapter fit

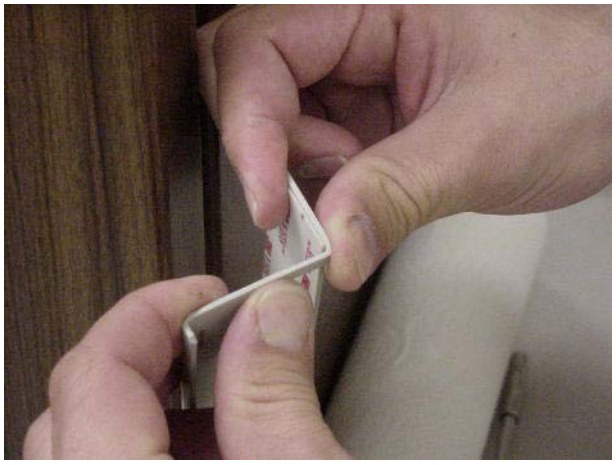

Figure 4-56. Bending the door adapter

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12. Attach the door adapter to the correct door plate using four 5/16” Hex nuts. Hand tighten.

Figure 4-57. Assembling the door brackets

13. Test fit the door bracket assembly against the door corner.

Figure 4-58. Testing the door bracket assembly fit

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Mounting Bracket Access

1. Use #2232 cam lock key to move the keyhole cover plate to the open (unlocked) position.
2. Remove the T-10 screw in back with a T-10 Torx driver.
3. Put on an ESD wrist strap and properly ground it.

Figure 4-59. Removing the back screw

4. Slide the outer housing back, then lift off.

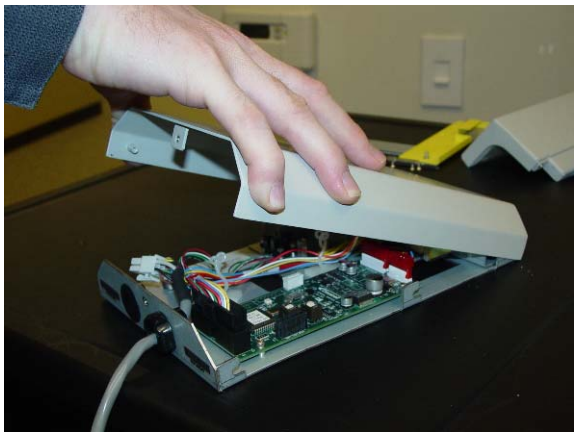

Figure 4-60. Removing the outer housing

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5. Remove the four 5/16” hex standoffs in each of the inner housing corners and retain them for later use.

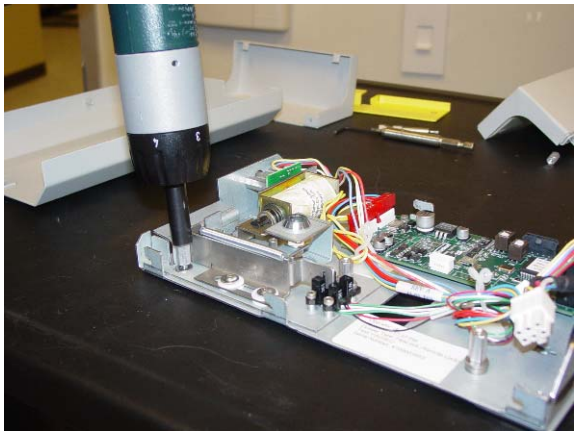

Figure 4-61. Removing the standoffs

6. Lift the inner housing off.

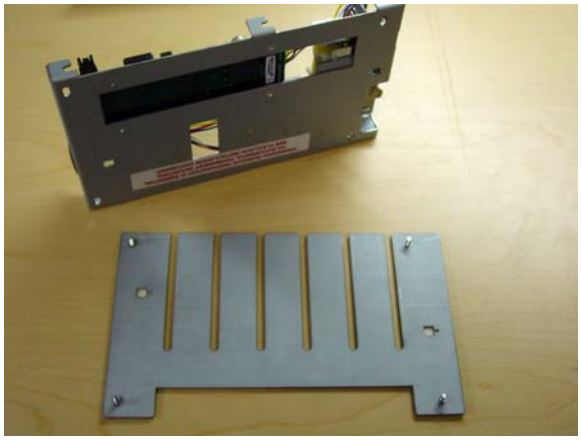

Figure 4-62. Removing the inner housing

Alignment Fixture

1. Place the mounting bracket so that the crossbar is toward the bottom and the threaded studs are facing up.

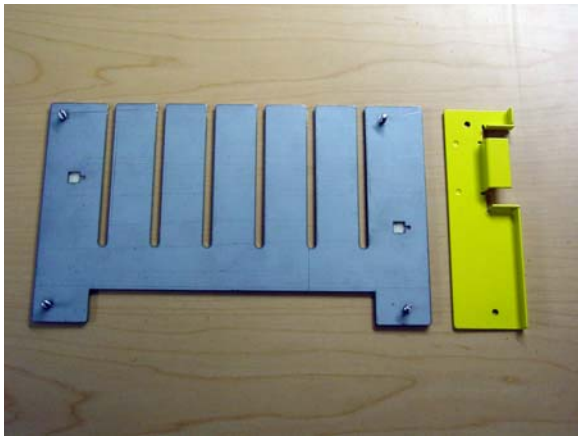

Figure 4-63. Arranging the bracket assembly

2. Lay the alignment fixture over the right side of the mounting bracket. Align the fixture's offset stud holes with the bracket studs. The fixture's cutout should be facing right.

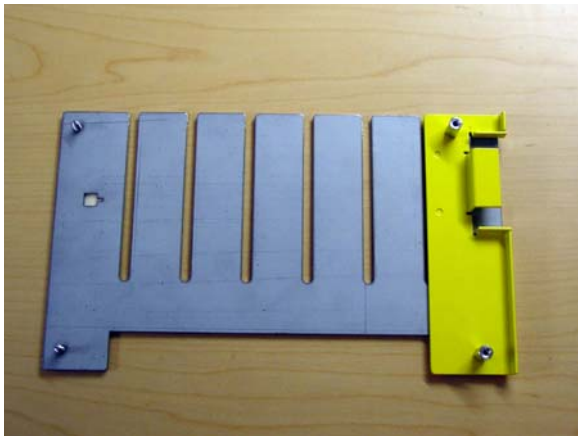

Figure 4-64. Placing the alignment fixture on the mounting bracket

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3. Use two of the standoffs (removed from the inner housing) to keep the fixture in place. Do not tighten.
4. Slide in the door bracket assembly's lock tab into the alignment fixture cutout.
5. Tighten the standoffs.

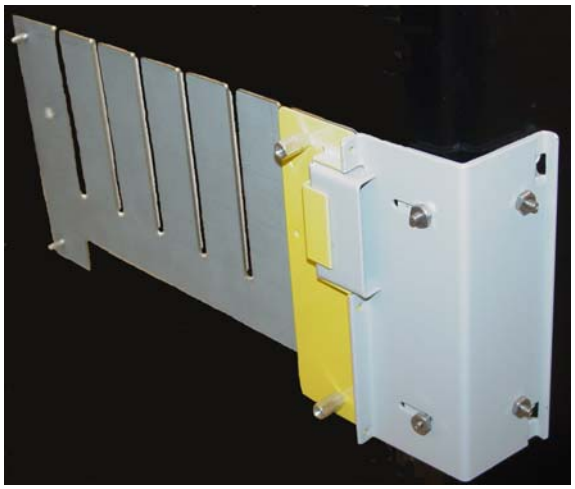

Figure 4-65. Completed bracket assembly with alignment fixture

Bracket Assembly

6. Fit the complete bracket assembly on the cabinet/refrigerator.

Figure 4-66. Fitting the whole bracket assembly

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7. Turn the brackets over and remove the protective film from the adhesive strips for the mounting bracket and the side of the inner door bracket. Leave the film cover on the strip that will go on the front of the door.

Figure 4-67. Removing adhesive strip covers

8. Fit the door bracket assembly to the cabinet/refrigerator and press firmly on the mounting bracket and the side of the door bracket assembly.

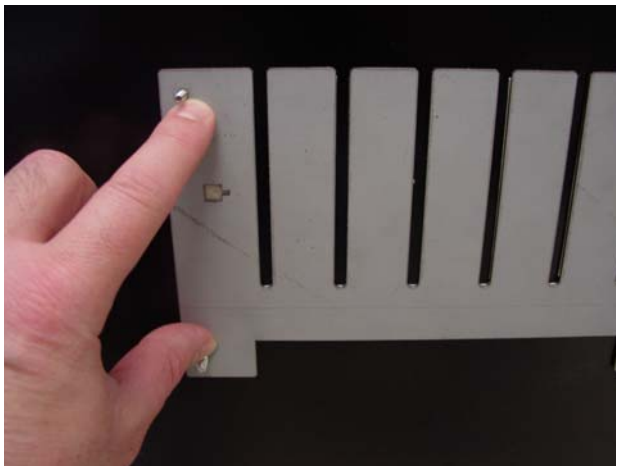

Figure 4-68. Bonding the bracket assembly

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9. Remove the alignment fixture.

Figure 4-69. Bracket assembly without the alignment fixture

10. Open the refrigerator/cabinet door.
11. Press firmly on the mounting bracket to assure the adhesive has full contact.

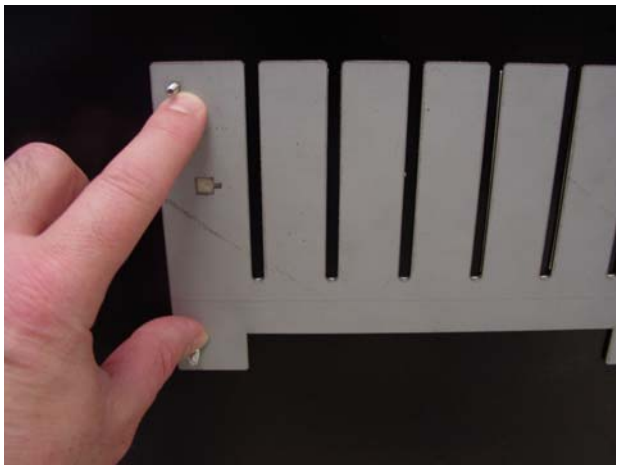

Figure 4-70. Pressing the mounting bracket

12. Close the refrigerator/cabinet door.
13. Remove the four 5/16” hex nuts to remove the door plate.

Figure 4-71. Removing the door plate

14. Bend the door adapter back slightly to peel off the adhesive strip cover.

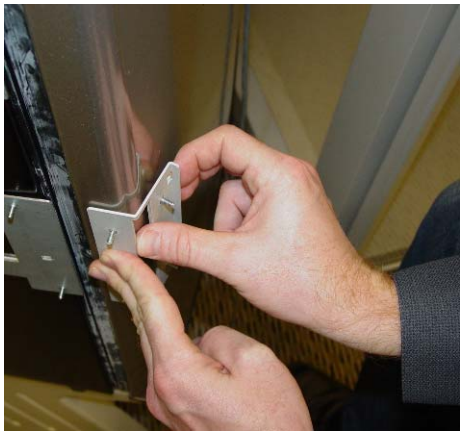

Figure 4-72. Bending the door adapter

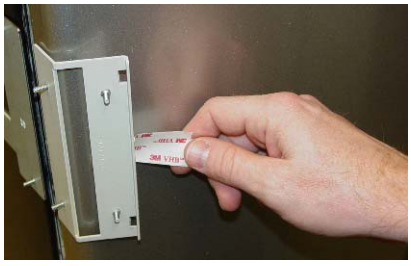

Figure 4-73. Stripping the adhesive cover

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15. Press the door adapter firmly in place, to assure full contact from the adhesive.

Figure 4-74. Bonding the door adapter

Important: Wait at least 24 hours for the bond to set before proceeding to the next step. If possible, wait 72 hours for 100% bond strength. Cutting the bonding time causes installation failure.

16. Re-attach the door plate to the door adapter and tighten the four 5/16” nuts.

Figure 4-75. Re-attaching the door plate

17. Open the door of the refrigerator/cabinet.

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18. Match the notches on the cover plate to the door plate openings.

Figure 4-76. Matching notches

19. Move the cover plate forward until it fits without gaps.

Figure 4-77. Placing the cover plate

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20. Secure the cover plate to the door plate with the three retained T-8 Torx screws to the side of the front cover.

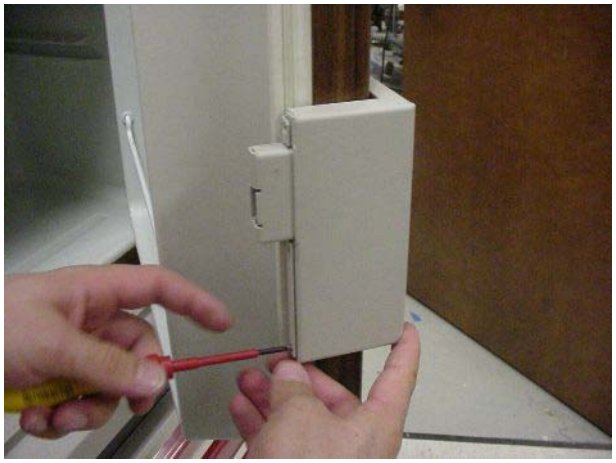

Figure 4-78. Securing the cover plate

21. Perform alignment adjustment as necessary. Refer to "Alignment Adjustment" on page 4-21.

Cable Replacement

22. Refer to "Cable Procedures" on page 4-4 to perform the following steps. Use the section that matches the equipment to which the FlexLock is connected.
    a. Access the equipment (e.g. electronics sled, ERB, etc.)
    b. For electronic sled/PC box, replace the power-communication cable.
    c. Connect the FlexLock cable.

Final Steps

23. Remove the ESD strap.
24. Place refrigerator items back inside, then close the refrigerator door.
25. Secure the refrigerator by engaging the locking system with cam key #2202.
26. Close the override lock cover with cam lock key #2232.
27. Power up the host cabinet/workstation.
28. Program the FlexLock.
    a. Login at the Color Touch screen of the cabinet where the FlexLock is cabled.
    b. Go to the configuration window.
        1. Press **Admin**.
        2. Press **Omni Config**.
        3. Press **Program FlexLock**.

Press the button on the FlexLock. A confirmation window is displayed when the FlexLock programming is complete. Refer to Figure 4-51.

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Appendix A Parts/Kit List

Part Link Table

This section links parts mentioned in the text with the Agile part number and description.

Part #	Part Name	Agile Description	Where Used
15-7065	cover; outer housing (FlexLock)	MFG,ASSY,OUTER,HOUSING FLEXLOCK	Mounting Bracket Inner Housing and Cover Cover Plate Removal Inner Housing Removal Mounting Bracket Access
15-7066 15-7067	door adapter	MFG,ASSY,FRONT,BKT,90 FLEXLOCK MFG,ASSY,FRONT,BKT,CURVED FLEXLOCK	FlexLock Assembly
15-7105	TempCheck, flex circuit, temperature probe	MFG ASSY,TEMPERATURE PROBE,FLEXLOCK	TempCheck Installation Kit/Parts Required Depth Adjustment
15-7106	inner housing (FlexLock); FlexLock cable (connected to inner housing)	MFG,ASSY,INNER,HOUSING FLEXLOCK,COST REDUCTION	Mounting Bracket Inner Housing and Cover Mounting Bracket Access
15-7278	mounting bracket	ASSY, BRACKET, MOUNT, FLEXLOCK	Alignment Fixture Inner Housing and Cover Mounting Bracket Removal
42-7052 42-7058	AUX cable (connectors, assembly); cable	CABLE,ASSY,RETROFIT,AUX,ERB CABLE,ASSY,RETROFIT,AUX,CT ERB	Kit/Parts Required Cabling for the OmniTT G3 Cabling for the OmniSupplier G3 Electronic Sled PC Box
42-7064	blue screen power cable	CABLE,ASSY,ADAPTER,BLUE,SCREENERB	Kit/Parts Required
53-7146	PCB/solenoid metal plate (ERB)	BKT, SOLENOID, MOUNT, ERB	External Return Bin ERB
53-7149	I/O cover plate (ERB)	BKT, I/O, SHIELD, ERB	External Return Bin ERB

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Part #	Part Name	Agile Description	Where Used
53-7156	bracket cutout retaining bracket	BKT,AUX,CUTOUT,ERB	Kit/Parts Required Cabling for the OmniTT G3 Cabling for the OmniSupplier G3 Electronic Sled PC Box
53-7212 53-7215	plate adapter	PLATE,DOOR,ADAPTER,FLEXLOCK PLATE,DOOR,ADAPTER,CURVED FLEXLOCK	Door Bracket Assembly
53-7213 53-7216	cover plate	PLATE,FRONT,COVER,FLEXLOCK PLATE,COVER,FRONT,CURVED FLEXLOCK	Door Bracket Assembly
53-7214	door plate	PLATE,DOOR,ATTACHMT,FLEXLOCK	Door Bracket Assembly
91-2051 91-2052	strain relief	STRAIN,RELIEF,HEYCO,1244 STRAIN,RELIEF,HEYCO,1207	Cabling for the OmniTT G3 Cabling for the OmniSupplier G3 External Return Bin FlexLock to FlexLock Chain Electronic Sled PC Box ERB FlexLock
91-2053	plug cover (ERB); Heyco plug	PLUG, HEYCO, #2503	External Return Bin FlexLock to FlexLock Chain ERB FlexLock
92-1002 92-1004 92-1011	keys	CAM LOCK, #2202 CAM LOCK, #2204 CAM LOCK, #2232	Kit/Parts Required Mounting Bracket External Return Bin FlexLock to FlexLock Chain FlexLock Manual Override ERB FlexLock Mounting Bracket Access
94-6059	5/16 nuts	NUT,HEX,6-32,SS	Door Bracket Assembly
94-6063	T-8 screws	SCREW,SHCS,4-40,X,1/4,SS	Door Bracket Assembly
94-6090	Kurly lock	CABLE,MOUNT,KURLY,LOK,RICHCO KLB-350A-RT	FlexLock to FlexLock Chain
94-6137 94-6162	T-10 screw	SCREW,BH,TORX,6-32,X,3/16,SS SCREW,FH,TORX,6-32,X,3/16,100,DEG,C'SINK	Mounting Bracket Mounting Bracket Access

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Part #	Part Name	Agile Description	Where Used
94-6138	6-32 BH Torx screw	SCREW, BH TORX, 6-32 X 1/4, SS	FlexLock to FlexLock Chain Cover Plate Removal FlexLock
94-6158	washers	WASHER,FLAT,#8,SS	Inner Housing and Cover Alignment Depth Adjustment Inner Housing Removal
94-6218 94-6278	Hex standoffs, standoffs	STANDOFF,HEX,6-32,X,1/2,F/F,AL STANDOFF,HEX,4-40,X,3/4,F/F,AL	Kit/Parts Required Mounting Bracket Inner Housing and Cover Depth Adjustment Inner Housing Removal Mounting Bracket Access Alignment Fixture
94-6233	4-40 flathead fastener (ERB)	SCREW, FH, TORX, 4-40 X 3/16, PATCH, SS, UNDERCUT	External Return Bin ERB
95-6007	cable ties	CABLE TIE, 4 IN.	Cabling for the OmniSupplier G3 Cabling for the OmniTT G3 FlexLock to FlexLock Chain Electronic Sled PC Box FlexLock
96-6071	alignment fixture	FIXTURE,ALIGNMENT,FLEXLOCK	Kit/Parts Required Alignment Fixture

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Kit List

This section provides a parts list used for the installation of the FlexLock.

Table A-1. FlexLock Kits

Kit #	Part #	Item Description	Notes	Qty
14-7043		FlexLock/Temp Check Assy	used for servicing FlexLock	1
	15-7065	Mfg Assy, Outer Housing FlexLock		1
	15-7066	Mfg Assy, Front Bracket 90		1
	15-7067	Mfg Assy, Front Bracket Curved		1
	15-7109	Mfg Assy, Inner Housing FlexLock	Cost reduction, no cable	1
	58-5060	FlexLock Packaging		1
	62-2164	14-7043 Assy Dwg, FlexLock	Cost Reduction	0
	62-6004	FlexLock Assy Procedure		0
	64-6002	Procedure, Program & Test		0
20-6023		FlexLock Install Kit	used for initial installation	1
	15-7105	TempCheck Probe	optional feature	1
	30-0094	Hardware Install CD	obsolete	x
	42-6002	CABLE,POWER,ADAPTER,"Y",HD		1
	42-7052	Cable Assy, Aux ERB		1
	42-7058	Cable Assy, Aux CT ERB	for Color Touch cabinets	1
	42-7064	Cable Assy Adapter ERB	for Blue Screen cabinets	1
	53-7156	ERB Aux Cutout Bracket		1
	60-3002	FlexLock Installation Guide		1
	91-2051	Strain Relief #1244	for cabling to an ERB or another FlexLock	1
	91-2052	Strain Relief #1207	for cabling to electronic sleds and PC box; used with bracket #53-7156	1
	93-6071	Alignment Fixture		1
	94-6138	Screw, BH Torx 6-32 x 1/4		1
	94-6158	Washer, Flat, #8,SS		4
	94-6218	Standoff, Hex 6-32 x 1/2		4
	94-6233	Screw, FH Torx 4-40 x 3/16		2
20-6037		FlexLock Upgrade Kit/TempCheck	for temperature probe retrofit	1
	15-7105	TempCheck Probe		1
	15-7106	FlexLock inner housing	with PCBA #40-3013/cost reduction	1
	42-6002	CABLE,POWER,ADAPTER,"Y",HD		1
	60-3002	FlexLock Installation Guide		1

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Compatible Refrigerators

Refer to the following lists of refrigerators when ordering an appliance (from a different vendor) to use with FlexLock. Note models that are no longer being manufactured. If these models are already on site, they can be used with FlexLock. However, these models can not be ordered new.

Refrigerator Lists

Important: Most of the smaller refrigerators are not frost free and require periodic cleaning.

Manufacturer	Model	Dimensions	Color	Notes
Kenmore	#93972	33 7/8" x 18 3/4" x 19 1/8"	white	3.9 cubic feet
Kenmore	#92779	26 3/16" x 18 3/4" x 19 1/8"	black	2.7 cubic feet
Sanyo	#SR-4310W	33 3/4" x 18 1/2" x 20 1/2"	white	4.4 cubic feet
Sanyo	#SR-2570W	25 1/4" x 18 1/2" x 17 1/2"	silver	2.5 cubic feet
Haier	#HMSE03WAWW	33 1/8" x 18 9/16" x 19 1/2"	white	3.3 cubic feet
Sunbeam	#SCR03PMWBW	27 7/10" x 19 4/5" x 19 1/2"	white	2.8 cubic feet
Sunbeam	#SCR04PMWBW	34 1/2" x 20 1/5" x 19 7/10"	white	3.9 cubic feet

Table A-2. Compact Refrigerators

Manufacturer	Model	Dimensions	Color	Notes
GE	#GTS18GBSW	67 3/8" x 28" x 32 3/8"	white	18.2 cubic feet
Whirlpool	#ER8AHMXRQ	68" x 28" x 31"	white	17.6 cubic feet
Kenmore	#27422	59" x 28" x 31"	white	14.1 cubic feet; frost free/Auto Frost Control
Kenmore	#26442	59" x 28" x 28 1/2"	white	14 cubic feet; frost free/Auto Frost Control
Kenmore	#26742	64.5" x 32" x 26 1/2"	white	17 cubic feet; frost free/Auto Frost Control
Kenmore	#27042	70 3/4" x 32" x 31"	white	20.6 cubic feet; frost free/Auto Frost Control
Kenmore	#26082	70" x 32" x 28 1/2"	white	21 cubic feet; frost free/Auto Frost Control
Inglis	#IT14KXSQ	62 7/8" x 28" x 31"	white	14.4 cubic feet
Whirlpool	#ER6AHKXSQ	65 1/2" x 28 3/16" x 30 9/16"	white	15.9 cubic feet
Whirlpool	#GR2FHMPQ	661/2" x 29 1/2" x 31 1/2"	white	21.7 cubic feet

Table A-3. Full Size Refrigerators

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Diagnostics and Troubleshooting

This chapter provides instructions for:

- Testing the FlexLock
- Checking the TempCheck probe temperature
- Troubleshooting TempCheck system messages

Note: The software configuration must be done before the FlexLock or TempCheck can be tested. Refer to "Software Implementation" on page 3-1.

FlexLock Testing

1. Log into the cabinet.
2. Press the **Diagnostic** button.
3. Press the **FlexLock** button on the front of the unit. FlexLock #_ is mounted displays for each installed FlexLock.

Figure B-1. FlexLock Button/Indicator Light

4. Press the **Unlock FlexLock** button. Closed - Unlocked is displayed.
5. Go to the FlexLock and pull it open. When the FlexLock is physically opened, the screen should display Open - Unlocked for the FlexLock opened.
6. Close the FlexLock.
7. Press **Lock FlexLock**.
8. Test the override lock using cam lock keys #2232 and 2202.
9. Lock both locks and give the keys to the hospital administrator.

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TempCheck

Diagnostics

Monitor the TempCheck temperature readings in real time on the diagnostics window. The readings are in Centigrade and Fahrenheit degrees.

To display the diagnostic window:

1. Press **Admin Menus**.
2. Press **Diagnostics**.

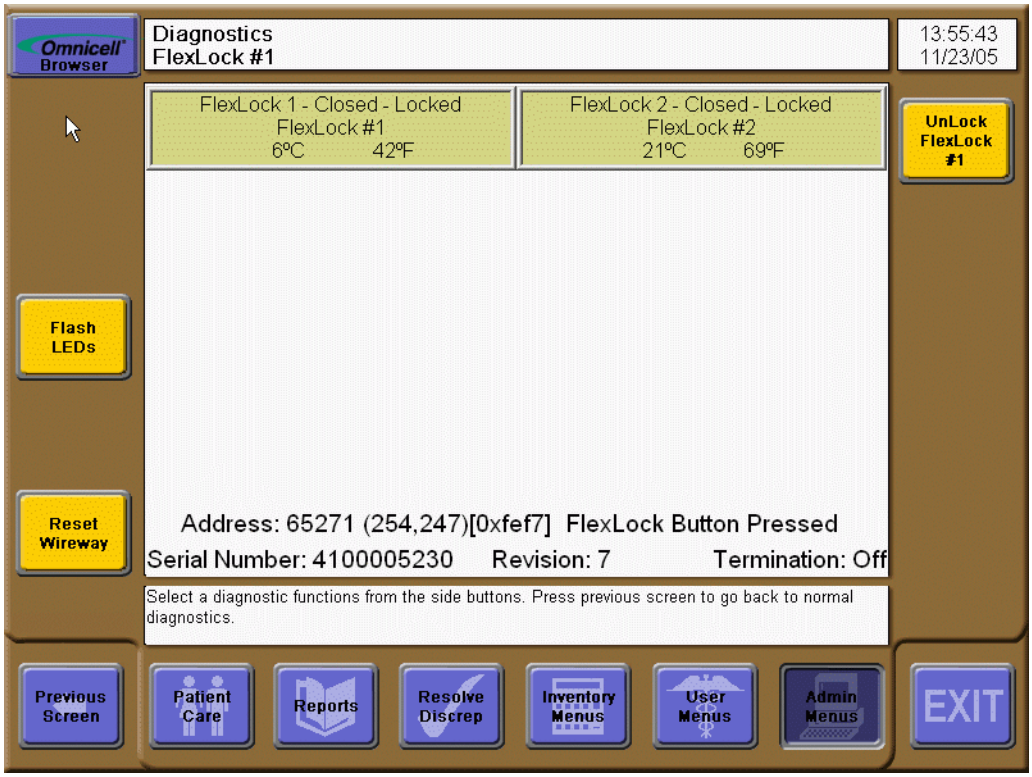

Figure B-2. Diagnostic Window

Troubleshooting

System messages for TempCheck consists of:

- Error messages indicate a hardware failure of some sort
- Temperature alerts indicate the refrigerator temperature is outside the specified range
- Misconfiguration warnings indicate incorrect settings

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Error Messages

Message	Action
No Communication: Software cannot communicate with FlexLock	* Check cabling
Temperature below hardware limit: Temperature is below a value that can be read by the temperature sensor.	* Check sensor—replace as needed. * Check refrigerator—fix or replace as needed.
Temperature above hardware limit: Temperature is above a value that can be read by the temperature sensor.	* Check sensor—replace as needed. * Check refrigerator—fix or replace as needed.
Voltage stuck low: Probable electrical problem	* Check the cabling, sensor, and FlexLock board. Replace as needed.
Voltage stuck high: Probable electrical problem	* Check the cabling, sensor, and FlexLock board. Replace as needed.

Temperature Alerts

Message	Action
[FlexLock Name] Temperature Too High [*x*° C]	* Check refrigerator—make sure door is closed; adjust temperature setting; fix or replace
[FlexLock Name] Temperature Too Low [*x*° C]	* Check refrigerator—adjust temperature setting; fix or replace

Misconfiguration Warnings

Message	Action
The low temperature warning level is the same as the high temperature warning level.	* Reset configuration
The low temperature warning level is above the high temperature warning level.	* Reset configuration

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Template

Trace and/or cut out the template pattern on the next page. Use the pattern to verify that the refrigerator or cabinet will fit the FlexLock. Refer "Preparation" on page 2-6 for instructions on how to use the template.

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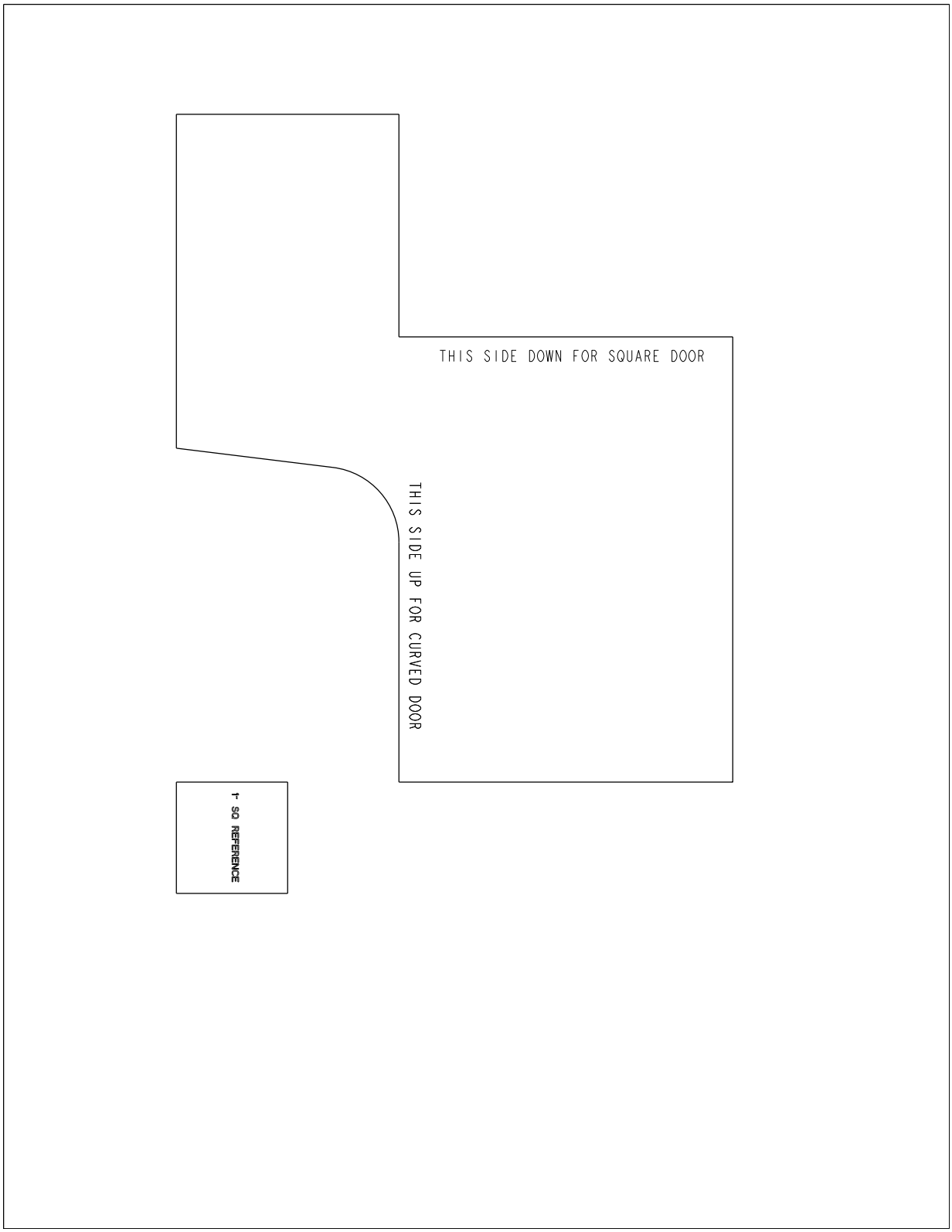

Figure C-1. FlexLock template pattern

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